DEPARTMENT OF DEFENSE EDUCATION ACTIVITY

Department of Defense Dependents Schools - Europe

2003 AHERA
ASBESTOS MANAGEMENT REPORT

Heidelberg District
Mannheim American Middle School
Mannheim-Kaefertal, Germany

Prepared by:

Baker Environmental, Inc.

A Unit of Michael Baker Corporation

Under Contract with:

U.S. Army Corps of Engineers

Transatlantic Programs Center

Date

DODEA INSPECTION SCHOOL DATA SUMMARY

BUILDING INSPECTOR:	William E. Gray
BUILDING INSPECTOR/ MANAGEMENT PLANNER:	Jeffrey C. Kolich
SCHOOL NAME:	Mannheim American Middle School
DODAAC NUMBER:	HE 3433
DATE OF VISIT:	14-16 July 2003
NAME OF ASBESTOS COORDINATOR:	Ms. Jaqueline Yardley
ADDRESS OF THE SCHOOL:	Unit 29937 APO AE 09086
SCHOOL TELEPHONE NUMBER:	49-621-720050
SCHOOL FAX NUMBER:	49-621-7200555

DEPARTMENT OF DEFENSE
EDUCATION ACTIVITY
ASBESTOS MANAGEMENT PROGRAM

2003 AHERA Inspection Report

for

Mannheim American Middle School
Mannheim-Kaefertal, Germany
HE 3433

Prepared For:

Department of Defense Education Activity
Logistics Division
4040 North Fairfax Drive
Arlington, Virginia 22203-1635

Prepared By:

Baker Environmental, Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

Under Contract With:

U.S. Army Corps of Engineers
Transatlantic Programs Center
Winchester, Virginia

2003 AHERA INSPECTION REPORT
FOR
MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

TABLE OF CONTENTS

IMPORTANT FOREWORD

The information presented in this report satisfies the reporting requirements of the AHERA legislation and DODEA policy regarding asbestos inspections conducted in DODEA facilities worldwide.

Under DODEA Asbestos Management Policy, the principal is the Asbestos Coordinator for this location. Prior to any activity that is likely to disturb building materials, the principal is responsible for ensuring that a thorough review of materials identified in this report has been completed.

FOR A SUMMARY TABULATION OF WHERE ASBESTOS WAS FOUND, AND WHAT SHOULD BE DONE ABOUT IT, PLEASE REFER TO TABLES 4.1 AND 5.1 PRINTED ON BLUE-TINTED PAPER.

Please also note that not all building materials have been tested. Examples of this may be materials which are hidden from view, inaccessible, or where sampling would be destructive. **THEREFORE, THERE IS NO ASSURANCE THAT UNTESTED MATERIALS ARE ASBESTOS-FREE.**

1.0 INTRODUCTION

As part of the Department of Defense Education Activity (DODEA) Asbestos Management Program, Baker Environmental, Inc. (Baker) has been contracted to inspect each Department of Defense Dependents Schools (DODDS) location for suspected, known, or assumed friable and non-friable asbestos-containing materials (ACM), in accordance with 40 CFR Part 763, Subpart E, the governing regulations of the Asbestos Hazard Emergency Response Act (AHERA). Technical management of the DODEA Asbestos Management Program is being carried out by the U.S. Army Corps of Engineers, Transatlantic Programs Center (USACE-TAC).

In preparation for this inspection, Baker staff reviewed previous asbestos information related to this location and available to Baker.

The inspection included the following activities:

- Identification of all previously known or previously assumed friable and non-friable suspected ACM.
- Identification and sampling, by homogeneous area, of any newly identified suspect ACM.
- Sampling of previously assumed ACM, if accessible.
- An assessment of all suspected, known, or assumed ACM.

Baker provided independent sample analyses under the approved Environmental Protection Agency (EPA) method described in 40 CFR Part 763, Appendix A, Subpart F, by subcontracting the analyses to laboratories accredited in accordance with standards set by the U.S. National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP).

This report provides:

- a summary of inspection activities at this location;
- a description of the assessment and sampling methods employed;
- a table summarizing the results of the inspection and sample analyses; and,
- recommendations for management actions for asbestos materials.

The four appendices include:

- a statement of AHERA accreditations and inspector certifications;
- a glossary of terms frequently used throughout the report;
- plans identifying the locations of samples taken during this inspection with room numbers and names used in the tables; and,
- the laboratory sample analysis reports.

2.0 SUMMARY OF INSPECTION ACTIVITIES

The inspection of Mannheim American Middle School was conducted on 14-16 July 2003, by a Baker field team. Team member names and credentials are in Appendix A.

The following list documents prior asbestos management activities at this location:

Final Survey Report, Mannheim Middle School, GE 3433, October 1988, by Dynamac Corporation

1991 AHERA Reinspection Report, Mannheim Middle School, GE 3433, August 1991, by Baker/TSA, Inc.

1994 AHERA Inspection Report, Mannheim Middle School, GE 3433, by Baker Environmental, Inc.

1997 Triennial Asbestos Resurvey Report, Mannheim Middle School, GE 3433, by Baker Environmental, Inc.

2000 Triennial Asbestos Resurvey Report, Mannheim Middle School, HE 3433, by Baker Environmental, Inc.

Baker's field team met with Ms. Kenya House, Secretary for Mannheim American Middle School, at the beginning of the inspection. The following facility utilization was identified:

BUILDING NUMBER (Year Built)	FUNCTION
0184 (1978)	Multipurpose

According to Ms. Kenya House, no buildings have been vacated and no new buildings have been occupied since the last AHERA inspection. Upon the Baker field team's arrival, Building 0184 was undergoing renovation. It is not known what impact this renovation may have on ACM. Because of this renovation, the following rooms were inaccessible to the Baker field team for inspection: Freezer, Dishwash, Kitchen, Kitchen Entrance, Kitchen Office, Kitchen Lounge, Kitchen Serving Line, Kitchen Storage, Kitchen Toilet, 118, 118A, 118B, and 118C. No other renovations or additions have occurred in the building that comprises Mannheim American Middle School since the last AHERA inspection.

In the course of this inspection, 28 suspected or known asbestos-containing homogeneous materials were sampled and/or assessed in the buildings listed above. In addition to sampling and/or assessing the suspected or known asbestos materials, the Baker field team verified the location of previously identified non-asbestos materials. Specific information about each of these materials, including the results of the sample analysis, can be found in Section 4.0 of this report.

In Building 0184, the previous AHERA inspection identified 15 ACM: wall plaster (Material Number 003), two types of sheet gasket (Material Numbers 009 and 048), two types of vinyl floor tile (Material Numbers 010 and 044), soffits (Material Number 017), two types of cement wall panels (Material Numbers 019 and 035), rope gasket (Material Number 021), four types of floor adhesive (Material Numbers 032, 034, 045, and 049), cement flooring (Material Number 033), and fire door lining (Material Number 036). The cement flooring (Material Number 033), one type of vinyl floor tile (Material Number 044), and one type of floor adhesive (Material Number 045) could not be located at the time of the 2003 AHERA inspection. Due to a change in the definition of ACM within this country, one previously defined positive material (Material Number 044) is no longer considered ACM. The laboratory results indicate that the material contains 0-1% asbestos, therefore, it is not considered to be ACM. All of the other previously identified ACM were located, assessed, and their quantities were confirmed. Two types of sheet gaskets (Material Numbers 009 and 048) and rope gaskets (Material Number 021) are damaged in the Old Boiler Room and should be removed. Three hundred twenty square feet of vinyl floor tile (Material Number 010) and the associated floor adhesive (Material Number 032) are damaged in Room 119 and should be removed. Ten square feet of vinyl floor tile (Material Number 010) and the associated floor adhesive (Material Number 032) are damaged in Room 114 and should be repaired. The Baker field team identified and sampled 13 additional suspect asbestos materials: two types of wallboard (Material Numbers 052 and 060), two types of joint compound (Material Numbers 053 and 061), vinyl floor tile (Material Number 054), five types of floor adhesive (Material Numbers 055, 056, 057, 059, and 062), caulk (Material Number 058), subfloor material (Material Number 063), and sheet gasket (Material Number 064). The floor adhesive (Material Number 062) tested positive for asbestos. All of the other newly sampled materials tested negative for asbestos.

3.0 ASSESSMENT AND SAMPLING METHODS

Assessment

An assessment was performed by accredited inspectors in conformance with Part 763.88 of the AHERA regulation for inspections [Section 763.85(b)], and guidelines in EPA Publication No. EPA 56015/85-024, "Guidance for Controlling Asbestos-Containing Materials in Buildings" ("The Purple Book") and EPA Publication No. EPA 700/B-92/001 "A Guide to Performing Reinspections Under The Asbestos Hazard Emergency Response Act (AHERA)", for all friable and non-friable known or assumed ACM in each school building at this location. Each homogeneous material was classified into one of the following categories:

1. Damaged or Significantly Damaged Thermal System Insulating ACM
2. Damaged Friable Surfacing ACM
3. Significantly Damaged Friable Surfacing ACM
4. Damaged or Significantly Damaged Friable Miscellaneous ACM
5. ACM with the Potential for Damage
6. ACM with the Potential for Significant Damage
7. Any Remaining Friable ACM or Friable Suspected ACM

N/A Any Remaining Material Assessed and Found to be Not Applicable to Any of the Seven Previous Categories

Definitions of these categories are contained in the glossary (Appendix B).

The inspectors considered the following factors to determine the above classifications:

- Location of Material
- Friability
- Type of Damage
- Percent of Damage
- Overall Condition
- Amount of Material
- Accessibility
- Influence of Vibration
- Influence of Air Erosion

Sampling

Each inspector utilized the sampling methodologies described in Part 763.86 of the AHERA regulations, in addition to guidelines described in EPA Publication No. EPA 560/5-85-030a, "Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials", and EPA Publication No. EPA 560/5-85-024, "Guidance for Controlling Asbestos-Containing Materials in Buildings", Appendix G. Inaccessible suspect materials were assumed to be asbestos-containing, as provided under the regulations.

Prior to shipment to a United States laboratory, each sample was properly sealed and labeled. Chain-of-custody documentation was sent to the laboratory with the samples.

4.0 RESULTS OF THE INSPECTION

Results of the inspection are presented on Table 4.1. The information on Table 4.1 is presented by building. Within each building, the information is grouped as follows:

- The first group contains all previously identified ACM that were confirmed to be present during the 2003 inspection, and any newly identified ACM.

- The second group contains all previously identified non-asbestos materials that were confirmed to be present during the 2003 inspection, and any new material identified during the 2003 inspection which was determined to be a non-asbestos material by sample analysis.

- The third group contains all previously identified materials, both asbestos and non-asbestos, which could not be confirmed to be present during the 2003 inspection. If the disposition of such material could be determined by the Baker field team, this information was noted in the comments section of Table 4.1.

Headings on Table 4.1 are defined as follows:

INSPECTION DATE - Date when this location was visited by a Baker field team to conduct the 2003 inspection.

BUILDING NUMBER - Identifies each building included in the report. If the date of construction was known, this information is presented in the parenthesis after the building number.

HOMO. MATRL. NO. (Homogeneous Material Number) - Numerical designation assigned to each homogeneous material that is uniform in color and texture, serves the same function, and was installed at the same time.

MATERIAL TYPE/MATERIAL DESCRIPTION - Brief description of the material, followed by information on distinguishing characteristics which may include function, size, color, shape, etc., if necessary.

AHERA CAT. (AHERA Category) - SACM-Surfacing Asbestos-Containing Material; TSIACM-Thermal System Insulation Asbestos-Containing Material; MACM-Miscellaneous Asbestos-Containing Material.

MATERIAL LOCATION(S) - Material locations as confirmed by the 2003 inspection. The material location(s) can be referenced to the floor plans in Appendix C of this report. The floor plans indicate room numbers and layouts as they existed at the time of the 2003 inspection. If a space within a building was not identified with a room number and materials were determined to be present in that space, the Baker field team assigned the space with a number and recorded this number on the floor plan. Material locations for those materials which could not be confirmed to be present at the time of the 2003 inspection are identified in those rooms where they are believed to have existed.

QTY. (Quantity) - Defined as linear footage (LF), square footage (SF), or number of each material contained in a homogeneous area.

SAMPLE INFORMATION - Provides information pertinent to the material sample as follows:

- **NUMBER** - A unique identification number assigned to each material sample collected.

- **DATE** - Collection date for the sample.

- **RESULT** - Analytical information provided by the laboratory. For those samples which were determined to have asbestos, the percent and type of asbestos is identified. The abbreviations used for the analytical results are:

AC = Actinolite CH = Chrysotile

AM = Amosite CR = Crocidolite

AN = Anthophyllite TR = Tremolite

ND = "None Detected" - No asbestos was detected in the sample

The analytical reports for all samples collected during the 2003 inspection are included in Appendix D of this report. Analytical reports for samples collected during previous inspections are included with the historical records for this location.

FRIABLE - A material is considered friable if, when dry, it may be crumbled, pulverized, or reduced to powder by hand pressure.

OVERALL CONDITION - Overall condition of the material is characterized as follows:

- **UNDAMAGED** - The material is in visibly good condition with no apparent damage.

- **DAMAGED** - The material exhibits some damaged areas. In the case of localized damage, less than 25% of the material exhibits damage. In the case of distributed damage, less than 10% of the material exhibits damage.

- **SIGNIFICANT DAMAGE** - The material exhibits extensive damage. In the case of localized damage, equal to or greater than 25% of the material exhibits extensive damage. In the case of distributed damage, equal to or greater than 10% of the material exhibits extensive damage.

If the material is damaged or significantly damaged, the distribution of the damage will be assessed as either Localized (LOCAL) or Distributed (DIST.).

ACCESS. (Accessibility) - A rating placed on a material which considers the accessibility for potential contact. It is ranked into one of three categories:

- **HIGH** - The material is readily accessible to building occupants.

- **MED** - The material is not so readily accessible to building occupants.

- **LOW** - The material is not easily accessible to building occupants.

EPA ASS. CAT. (EPA Assessment Category) - A damage classification from 1 to 7 as defined by the AHERA for known or suspect ACM:

1. Damaged or Significantly Damaged Thermal System Insulating ACM
2. Damaged Friable Surfacing ACM
3. Significantly Damaged Friable Surfacing ACM
4. Damaged or Significantly Damaged Friable Miscellaneous ACM
5. ACM with the Potential for Damage
6. ACM with a Potential for Significant Damage
7. Any Remaining Friable ACM or Friable Suspected ACM

N/A Any Remaining Material Assessed and Found to be Not Applicable to Any of the Seven Previous Categories

MANAGEMENT ACTION - The recommended action based on the EPA assessment category and on the judgement of the inspector based on activities of the occupants. For each asbestos material, at least one of the following management actions pertaining to all or portions of the material will be selected:

- **ENCLOSE** - Installation of an airtight, impermeable, permanent barrier around the ACM.

- **ENCAPSULATE** - Treatment of ACM with a penetrating or surface sealant in order to minimize the potential for fiber release.

- **O&M** - A program of work practices to maintain ACM in good condition, ensure clean-up of asbestos fibers previously released, and prevent further release by minimizing and controlling ACM disturbance or damage.

- **REMOVE** - Removal of ACM from a damaged area, a functional space, or a homogeneous area as indicated.

- **REPAIR** - Returning damaged ACM to an undamaged condition.

COMMENTS - Additional comments may be provided to further describe the location or condition of materials, clarify sample results, or amplify the recommended management action.

The following table columns contain information only if the material tested positive for asbestos and was confirmed to be present during the 2003 inspection:

- Friable
- Overall Condition
- Accessibility
- EPA Assessment Category
- Management Action

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

INSPECTION DATE: 14 - 16 JUL 2003
BUILDING NUMBER: 0184 (1978)

TABLE 4.1 - RESULTS OF THE INSPECTION

HOMO. MATRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	AHERA CAT.	MATERIAL LOCATION(S)	QTY.	SAMPLE INFORMATION			FRI-ABLE	OVERALL CONDITION	ACCESS.	EPA ASS. CAT	MANAGE-MENT ACTION	COMMENTS
					NUMBER	DATE	RESULT						
THE FOLLOWING ASBESTOS MATERIALS WERE IDENTIFIED IN BUILDING 0184 (1978)													
003	WALL PLASTER (1/16" THICK, WHITE SKIM COAT ON CONCRETE)	SACM	DISHWASH, GYMNASIUM 2, KITCHEN, KITCHEN OFFICE, KITCHEN SERVING LINE, LOBBY 1, STAIRWELL 1, STAIRWELL 2, STAIRWELL 3, 100 CAFETERIA, 111, 118A, 118B, 118C, 123, 125, 126, 127B, 128, 129, 131 SUPPLY, 135, 136A, 136B, 137 OFFICE, 138, 139, 143, 144, 145, 147 NURSE, 150A, 154, 156, 157, 158, 159, 160, 161, 162, 163, 166, 167, 168, 178, 186, 201, 202, 206, 207 LIBRARY, 208, 209, 210, 211, 212B, 214, 215, 216, 217, 218, 219, 223, 224, 225, 301, 302, 306, 307, 308, 309, 310, 311B, 314, 315, 316, 317, 318, 322, 323, 324	29,981 SF	38817	07/25/88	ND	NO	UNDAMAGED	HIGH	5	O&M	DUE TO RENOVATION DURING THE 2003 INSPECTION, THE FOLLOWING ROOMS WERE INACCESSIBLE FOR INSPECTION: DISHWASH, KITCHEN, KITCHEN OFFICE, KITCHEN SERVING LINE, 118A, 118B, AND 118C.
					38826	07/25/88	2% CH						
					38846	07/25/88	ND						
					38850	07/25/88	ND						
					0504-MAM-003A	05/04/91	<1% CH						
					0504-MAM-003B	05/04/91	<1% CH						
					0504-MAM-003C	05/04/91	<1% CH						
					0504-MAM-003D	05/04/91	ND						
					0504-MAM-003E	05/04/91	<1% CH						
					0504-MAM-003F	05/04/91	<1-2% CH						
					0504-MAM-003G	05/04/91	<1% CH						
					0504-MAM-003H	05/04/91	<1% CH						
					0504-MAM-003I	05/04/91	<1% CH						
009	SHEET GASKET (2"- 4" DIAMETER, RED, ON PIPE FLANGE CONNECTIONS)	MACM	AIR HANDLING ROOM, OLD BOILER ROOM, 002, 003, 119	105 EA	38832	07/25/88	55% CH	NO	DAMAGED / LOCALIZED	MEDIUM	6	REMOVE O&M	ONE SHEET GASKET IN THE OLD BOILER ROOM IS DAMAGED AND NEEDS TO BE REMOVED.
					38859	07/25/88	45% CH						
					38860	07/25/88	85% CH						
					38872	07/25/88	45% CH						
010	VINYL FLOOR TILE (1' X 1' WHITE)	MACM	GYMNASIUM STORAGE, 114, 119, 131 SUPPLY, 133, 134, 135, 171, 172, 178, 186	2,786 SF	38827	07/25/88	ND	NO	SIGNIFICANT DAMAGE / LOCALIZED	HIGH	6	REMOVE REPAIR O&M	THE ADHESIVE FOR THIS MATERIAL IS MATERIAL #032. THIS MATERIAL IS LOCATED BELOW THE EXISTING CARPET IN SOME LISTED LOCATIONS. IN ROOM 119, 320 SF ARE DAMAGED AND NEED TO BE REMOVED. IN ROOM 114, 10 SF ARE DAMAGED AND NEED TO BE REPAIRED.
					38828	07/25/88	ND						
					38849	07/25/88	<1% CH						
					38865	07/25/88	<1% CH						
					0504-MAM-010A	05/04/91	3-5% CH						
					0504-MAM-010B	05/04/91	3-5% CH						
					0504-MAM-010C	05/04/91	1-3% CH						
017	SOFFITS (2' X 4' WHITE SURFACE, CEMENTITIOUS)	MACM	ENTRANCE 1, ENTRANCE 2, ENTRANCE 3, ENTRANCE 4, ENTRANCE 5	176 SF	38853	07/25/88	5% CH	NO	UNDAMAGED	MEDIUM	5	O&M	
					38854	07/25/88	5% CH						
					38876	07/25/88	10% CH						

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

INSPECTION DATE: 14 - 16 JUL 2003
BUILDING NUMBER: 0184 (1978)

TABLE 4.1 - RESULTS OF THE INSPECTION

HOMO. MATRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	AHERA CAT.	MATERIAL LOCATION(S)	QTY.	SAMPLE INFORMATION			FRI-ABLE	OVERALL CONDITION	ACCESS.	EPA ASS. CAT	MANAGE-MENT ACTION	COMMENTS
					NUMBER	DATE	RESULT						
019	CEMENT WALL PANELS (GRAY, PIPE CHASE COVER)	MACM	148, 186	80 SF	38857 38858	07/25/88 07/25/88	5% CH 5% CH	NO	UNDAMAGED	HIGH	5	O&M	
021	ROPE GASKET (WHITE)	MACM	OLD BOILER ROOM	5 EA	38863 38864	07/25/88 07/25/88	90% CH 85% CH	YES	DAMAGED / DISTRIBUTED	MEDIUM	4	REMOVE	ALL OF THIS MATERIAL IS DAMAGED AND NEEDS TO BE REMOVED. THIS MATERIAL IS LOCATED ON THE 2' X 6' SELF-STANDING BOILER PLATES.
032	FLOOR ADHESIVE (BLACK, UNDER 1' X 1' WHITE AND 1' X 1' BROWN VINYL FLOOR TILES)	MACM	GYMNASIUM STORAGE, 114, 119, 131 SUPPLY, 133, 134, 135, 171, 172, 178, 186	2,922 SF	0504-MAM-032A 0504-MAM-032B 0504-MAM-032C	05/04/91 05/04/91 05/04/91	2-5% CH 3-5% CH 3-5% CH	NO	SIGNIFICANT DAMAGE / LOCALIZED	HIGH	6	REMOVE REPAIR O&M	THIS IS THE ADHESIVE FOR MATERIALS #010 AND #023. IN ROOM 119, 320 SF ARE DAMAGED AND NEED TO BE REMOVED. IN ROOM 114, 10 SF ARE DAMAGED AND NEED TO BE REPAIRED.
034	FLOOR ADHESIVE (BLACK, UNDER 2' X 2' OFF-WHITE, CEMENTITIOUS TILE)	MACM	129	720 SF	0504-MAM-034A 0504-MAM-034B	05/04/91 05/04/91	3-5% CH 1-2% CH	NO	UNDAMAGED	LOW	5	O&M	THIS IS THE RESIDUAL ADHESIVE FOR MATERIAL #033. THIS MATERIAL IS LOCATED BELOW EXISTING BLUE CARPET.
035	CEMENT WALL PANELS (BROWN CEMENT BOARD)	MACM	STAIRWELL 1, STAIRWELL 2, STAIRWELL 3, STAIRWELL B1, STAIRWELL B2	503 SF	0504-MAM-035A 0504-MAM-035B 0504-MAM-035C	05/04/91 05/04/91 05/04/91	40% CH 40% CH 40% CH	NO	UNDAMAGED	HIGH	5	O&M	THIS MATERIAL IS MOUNTED ON THE WALLS NEAR THE STAIR RAILINGS.
036	FIRE DOOR LINING (WHITE, METAL ENCASED)	MACM	OLD BOILER ROOM	2 EA	0509-MAM-036	05/09/91	10-20% CH	NO	UNDAMAGED	LOW	5	O&M	
048	SHEET GASKET (WHITE)	MACM	OLD BOILER ROOM	7 EA	1196-MAM-048A 1196-MAM-048B 1196-MAM-048C	11/08/96 11/08/96 11/08/96	60-65% CH 60-65% CH 60-65% CH	NO	DAMAGED / DISTRIBUTED	MEDIUM	6	REMOVE	ALL OF THIS MATERIAL IS DAMAGED AND NEEDS TO BE REMOVED. THIS MATERIAL IS LOCATED ON THE 2' X 6' SELF-STANDING BOILER PLATES.

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

INSPECTION DATE: 14 - 16 JUL 2003
BUILDING NUMBER: 0184 (1978)

TABLE 4.1 - RESULTS OF THE INSPECTION

HOMO. MATRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	AHERA CAT.	MATERIAL LOCATION(S)	QTY.	SAMPLE INFORMATION			FRI-ABLE	OVERALL CONDITION	ACCESS.	EPA ASS. CAT	MANAGE-MENT ACTION	COMMENTS
					NUMBER	DATE	RESULT						
049	FLOOR ADHESIVE (BLACK AND YELLOW, UNDER 1' X 1' LIGHT BROWN WITH BLACK STREAKS VINYL FLOOR TILE)	MACM	153, 171	216 SF	1196-MAM-049A	11/08/96	1-3% CH	NO	UNDAMAGED	LOW	5	O&M	THIS IS THE ADHESIVE FOR MATERIAL #026.
					1196-MAM-049B	11/08/96	1-3% CH						
					1196-MAM-049C	11/08/96	1-3% CH						
062	FLOOR ADHESIVE (BLACK, UNDER PURPLE ANTI-STATIC CARPET)	MACM	163, 167, 168	2,284 SF	0703-MAM-062A	07/16/03	3% CH	NO	UNDAMAGED	LOW	5	O&M	
					0703-MAM-062B	07/16/03	3% CH						
					0703-MAM-062C	07/16/03	2% CH						

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

INSPECTION DATE: 14 - 16 JUL 2003
BUILDING NUMBER: 0184 (1978)

TABLE 4.1 - RESULTS OF THE INSPECTION

HOMO. MATRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	AHERA CAT.	MATERIAL LOCATION(S)	QTY.	SAMPLE INFORMATION			FRI-ABLE	OVERALL CONDITION	ACCESS.	EPA ASS. CAT	MANAGE-MENT ACTION	COMMENTS
					NUMBER	DATE	RESULT						
THE FOLLOWING NON-ASBESTOS MATERIALS WERE IDENTIFIED IN BUILDING 0184 (1978)													
001	CEILING TILES (2' X 4' WHITE, RANDOM PINHOLE, ROUGH TEXTURED, SUSPENDED)	MACM	114, 169, 206, 223, 306, 314, 316	1,310 SF	38815	09/01/88	ND						
					38823	09/01/88	ND						
					38834	09/01/88	ND						
					38848	09/01/88	ND						
					38884	09/01/88	ND						
007	VINYL FLOOR SHEETING (LIGHT BROWN WITH MARBLE PATTERN)	MACM	KITCHEN LOUNGE, 100 CAFETERIA	4,090 SF	38844	09/01/88	ND						THE ADHESIVE FOR THIS MATERIAL IS MATERIAL #038. DUE TO RENOVATION DURING THE 2003 INSPECTION, THE KITCHEN LOUNGE WAS INACCESSIBLE FOR INSPECTION.
					38845	09/01/88	ND						
008	VINYL FLOOR SHEETING (DARK BROWN WITH MARBLE PATTERN)	MACM	100 CAFETERIA	160 SF	38840	09/01/88	ND						THE ADHESIVE FOR THIS MATERIAL IS MATERIAL #038.
					38841	09/01/88	ND						
012	ACOUSTICAL WALL PANELS (2' X 2' WHITE, RANDOM PINHOLE, ROUGH SURFACE, HIDDEN SUSPENDED SPLINE)	MACM	100 CAFETERIA, 118, 118A, 118B, 118C	1,020 SF	38833	09/01/88	ND						DUE TO RENOVATION DURING THE 2003 INSPECTION, ROOMS 118, 118A, 118B, AND 118C WERE INACCESSIBLE FOR INSPECTION.
					38839	09/01/88	ND						
014	ACOUSTICAL WALL PANELS (1' X 1' WHITE, PEGHOLE, STAPLED ON)	MACM	118A, 118B, 118C	240 SF	38837	09/01/88	ND						DUE TO RENOVATION DURING THE 2003 INSPECTION, THIS MATERIAL WAS INACCESSIBLE FOR INSPECTION.
					38838	09/01/88	ND						
015	CEILING TILES (2' X 4' WHITE, PINHOLE, FISSURED, SUSPENDED)	MACM	STAGE ENTRANCE	33 SF	38842	09/01/88	ND						
					38843	09/01/88	ND						

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

INSPECTION DATE: 14 - 16 JUL 2003
BUILDING NUMBER: 0184 (1978)

TABLE 4.1 - RESULTS OF THE INSPECTION

HOMO. MATRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	AHERA CAT.	MATERIAL LOCATION(S)	QTY.	SAMPLE INFORMATION			FRI-ABLE	OVERALL CONDITION	ACCESS.	EPA ASS. CAT	MANAGE-MENT ACTION	COMMENTS
					NUMBER	DATE	RESULT						
016	VINYL FLOOR TILE (9" X 9" GRAY WITH BLACK STREAKS)	MACM	147 NURSE, 171	480 SF	38851	09/01/88	ND						THE ADHESIVE FOR THIS MATERIAL IS MATERIAL #047.
					38852	09/01/88	ND						
022	VINYL FLOOR SHEETING (LIGHT GRAY WITH BLUE STREAKS)	MACM	GYMNASIUM 1, GYMNASIUM 2	7,350 SF	38866	09/01/88	ND						THE ADHESIVE FOR THIS MATERIAL IS MATERIAL #043.
					38867	09/01/88	ND						
023	VINYL FLOOR TILE (1' X 1' BROWN)	MACM	171, 178	136 SF	38868	09/01/88	ND						THE ADHESIVE FOR THIS MATERIAL IS MATERIAL #032.
					38869	09/01/88	ND						
024	SHEET GASKET (WHITE, ON DUCTWORK)	MACM	150	10 SF	38870	09/01/88	ND						THE GASKET IS LOCATED BETWEEN THE DUCTWORK AND THE CINDER-BLOCK WALL.
					38871	09/01/88	ND						
025	FIRE DAMPERS (WHITE)	MACM	150	2 EA	38873	09/01/88	ND						
					38874	09/01/88	ND						
					38875	09/01/88	ND						
026	VINYL FLOOR TILE (1' X 1' LIGHT BROWN WITH BLACK STREAKS)	MACM	153, 171	216 SF	38877	09/01/88	ND						THE ADHESIVE FOR THIS MATERIAL IS MATERIAL #049.
					38878	09/01/88	ND						
027	CEILING TILES (2' X 2' WHITE, FISSURED, SUSPENDED)	MACM	170	800 SF	38879	09/01/88	ND						
					38880	09/01/88	ND						

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

INSPECTION DATE: 14 - 16 JUL 2003
BUILDING NUMBER: 0184 (1978)

TABLE 4.1 - RESULTS OF THE INSPECTION

HOMO. MATRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	AHERA CAT.	MATERIAL LOCATION(S)	QTY.	SAMPLE INFORMATION			FRI-ABLE	OVERALL CONDITION	ACCESS.	EPA ASS. CAT	MANAGE-MENT ACTION	COMMENTS
					NUMBER	DATE	RESULT						
029	CEILING TILES (2' X 2' WHITE, SMOOTH SURFACE, SUSPENDED)	MACM	KITCHEN ENTRANCE, KITCHEN LOUNGE, KITCHEN STORAGE	300 SF	38885	09/01/88	ND						DUE TO RENOVATION DURING THE 2003 INSPECTION, THIS MATERIAL WAS INACCESSIBLE FOR INSPECTION.
					38886	09/01/88	ND						
030	CEILING BOARD (WHITE)	MACM	DISHWASH, KITCHEN, KITCHEN OFFICE, KITCHEN SERVING LINE	1,060 SF	38887	09/01/88	ND						THE JOINT COMPOUND FOR THIS MATERIAL IS MATERIAL #051. DUE TO RENOVATION DURING THE 2003 INSPECTION, THIS MATERIAL WAS INACCESSIBLE FOR INSPECTION.
					38888	09/01/88	ND						
031	THERMAL PIPE INSULATION (6"-8" DIAMETER, BLACK ASPHALTIC PAPER COVER, BROWN PAPER, FIBERGLASS CORE)	TSIACM	CORRIDOR A, CORRIDOR B, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162	900 LF	0504-MAM-031A	05/04/91	ND						THIS MATERIAL IS LOCATED ABOVE THE EXISTING CEILING MATERIAL.
					0504-MAM-031B	05/04/91	ND						
					0504-MAM-031C	05/04/91	ND						
037	CEILING TILES (2' X 2' WHITE, PINHOLE, SUSPENDED)	MACM	100 CAFETERIA, 118, 118A, 118B, 118C, 123, 125, 126, 128, 129, 131 SUPPLY, 133, 134, 135, 143, 143A, 144, 145, 147 NURSE, 148, 150, 151, 152, 153, 154, 155, 171, 178, 186, 201, 202, 207 LIBRARY, 208, 209, 210, 211, 215, 216, 217, 218, 219, 224, 225, 301, 302, 307, 308, 309, 310, 315, 317, 318, 322, 323, 324	46,680 SF	0194-MAM-037A	01/18/94	ND						DUE TO RENOVATION DURING THE 2003 INSPECTION, ROOMS 118, 118A, 118B, AND 118C WERE INACCESSIBLE FOR INSPECTION.
					0194-MAM-037B	01/18/94	ND						
					0194-MAM-037C	01/18/94	ND						
038	FLOOR ADHESIVE (YELLOW, UNDER LIGHT BROWN WITH MARBLE PATTERN AND DARK BROWN WITH MARBLE PATTERN VINYL FLOOR SHEETINGS)	MACM	KITCHEN LOUNGE, 100 CAFETERIA	4,250 SF	1196-MAM-038A	11/07/96	ND						THIS IS THE ADHESIVE FOR MATERIALS #007 AND #008. DUE TO RENOVATION DURING THE 2003 INSPECTION, THE KITCHEN LOUNGE WAS INACCESSIBLE FOR INSPECTION.
					1196-MAM-038B	11/07/96	ND						
					1196-MAM-038C	11/07/96	ND						
039	FLOOR ADHESIVE (YELLOW, UNDER BLUE CARPET)	MACM	118, 118A, 118B, 118C, 123, 125, 126, 128, 129, 133, 134, 135, 136A, 136B, 137 OFFICE, 138, 139, 143, 143A, 144, 145, 152, 154, 155, 163, 171, 201, 202, 206, 207 LIBRARY, 208, 209, 210, 211, 215, 216, 217, 218, 219, 223, 224, 225, 301, 302, 306, 307, 308, 309, 310, 314, 315, 316, 317, 318, 322, 323, 324	38,845 SF	1196-MAM-039A	11/07/96	ND						DUE TO RENOVATION DURING THE 2003 INSPECTION, ROOMS 118, 118A, 118B, AND 118C WERE INACCESSIBLE FOR INSPECTION.
					1196-MAM-039B	11/07/96	ND						
					1196-MAM-039C	11/07/96	ND						

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

INSPECTION DATE: 14 - 16 JUL 2003
BUILDING NUMBER: 0184 (1978)

TABLE 4.1 - RESULTS OF THE INSPECTION

HOMO. MATRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	AHERA CAT.	MATERIAL LOCATION(S)	QTY.	SAMPLE INFORMATION			FRI-ABLE	OVERALL CONDITION	ACCESS.	EPA ASS. CAT	MANAGE-MENT ACTION	COMMENTS
					NUMBER	DATE	RESULT						
040	CEILING TILES (2' X 2' WHITE, PINHOLE PATTERN, ROUGH SURFACE, SUSPENDED)	MACM	136A, 136B, 137 OFFICE, 138, 139	1,020 SF	1196-MAM-040A	11/07/96	ND						
					1196-MAM-040B	11/07/96	ND						
					1196-MAM-040C	11/07/96	ND						
041	FLOOR ADHESIVE (YELLOW, UNDER BLUE WITH WHITE SPECKS RUBBER FLOORING)	MACM	156, 157, 157A, 158, 159, 160, 161, 162, 166	3,334 SF	1196-MAM-041A	11/07/96	ND						
					1196-MAM-041B	11/07/96	ND						
					1196-MAM-041C	11/07/96	ND						
042	SINK COATING (BLACK PAD)	MACM	125, 126, 128, 129, 131 SUPPLY, 143, 150, 153, 157, 160, 170, 201, 202, 216, 217, 218, 219, 224, 225, 301, 302, 307, 308, 309, 310, 315, 316, 317, 318, 323, 324	32 EA	1196-MAM-042A	11/07/96	ND						
					1196-MAM-042B	11/07/96	ND						
					1196-MAM-042C	11/07/96	ND						
043	FLOOR ADHESIVE (YELLOW, UNDER LIGHT GRAY WITH BLUE STREAKS VINYL FLOOR SHEETING)	MACM	GYMNASIUM 1, GYMNASIUM 2	7,350 SF	1196-MAM-043A	11/07/96	ND						THIS IS THE ADHESIVE FOR MATERIAL #022.
					1196-MAM-043B	11/07/96	ND						
					1196-MAM-043C	11/07/96	ND						
046	SINK COATING (GRAY)	MACM	171	10 EA	1196-MAM-046A	11/07/96	ND						
					1196-MAM-046B	11/07/96	ND						
					1196-MAM-046C	11/07/96	ND						
047	FLOOR ADHESIVE (BLACK, UNDER 9" X 9" GRAY WITH BLACK STREAKS VINYL FLOOR TILE)	MACM	147 NURSE, 171	480 SF	1196-MAM-047A	11/08/96	ND						THIS IS THE ADHESIVE FOR MATERIAL #016.
					1196-MAM-047B	11/08/96	ND						
					1196-MAM-047C	11/08/96	ND						
050	WALL TILE (2' X 2' WHITE, PINHOLE, STAPLED ON)	MACM	207 LIBRARY	320 SF	0301-MAM-050A	03/14/01	ND						
					0301-MAM-050B	03/14/01	ND						
					0301-MAM-050C	03/14/01	ND						

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

INSPECTION DATE: 14 - 16 JUL 2003
BUILDING NUMBER: 0184 (1978)

TABLE 4.1 - RESULTS OF THE INSPECTION

HOMO. MATRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	AHERA CAT.	MATERIAL LOCATION(S)	QTY.	SAMPLE INFORMATION			FRI-ABLE	OVERALL CONDITION	ACCESS.	EPA ASS. CAT	MANAGE-MENT ACTION	COMMENTS
					NUMBER	DATE	RESULT						
051	JOINT COMPOUND (WHITE)	MACM	DISHWASH, KITCHEN, KITCHEN OFFICE, KITCHEN SERVING LINE	106 SF	0301-MAM-051A	03/15/01	ND						THIS IS THE JOINT COMPOUND FOR MATERIAL #030. DUE TO RENOVATION DURING THE 2003 INSPECTION, THIS MATERIAL WAS INACCESSIBLE FOR INSPECTION.
					0301-MAM-051B	03/15/01	ND						
					0301-MAM-051C	03/15/01	ND						
052	WALLBOARD (1/2" THICK, TAN PAPER, SMOOTH SURFACE, WHITE CORE)	MACM	CORRIDOR A, 143, 143A, 155	360 SF	0703-MAM-052A	07/16/03	ND						THE JOINT COMPOUND FOR THIS MATERIAL IS MATERIAL #053. NO JOINT COMPOUND IS ASSOCIATED WITH THIS MATERIAL IN ROOM 155.
					0703-MAM-052B	07/16/03	ND						
					0703-MAM-052C	07/16/03	ND						
053	JOINT COMPOUND (WHITE)	MACM	CORRIDOR A, 143, 143A	34 SF	0703-MAM-053A	07/16/03	ND						THIS IS THE JOINT COMPOUND FOR MATERIAL #052.
					0703-MAM-053B	07/16/03	ND						
					0703-MAM-053C	07/16/03	ND						
054	VINYL FLOOR TILE (2' X 2' LIGHT GRAY WITH DARK GRAY STREAKS)	MACM	ELEVATOR	30 SF	0703-MAM-054A	07/16/03	ND						THE ADHESIVE FOR THIS MATERIAL IS MATERIAL #055.
					0703-MAM-054B	07/16/03	ND						
					0703-MAM-054C	07/16/03	ND						
055	FLOOR ADHESIVE (RED, UNDER 2' X 2' LIGHT GRAY WITH DARK GRAY STREAKS VINYL FLOOR TILE)	MACM	ELEVATOR	30 SF	0703-MAM-055A	07/16/03	ND						THIS IS THE ADHESIVE FOR MATERIAL #054.
					0703-MAM-055B	07/16/03	ND						
					0703-MAM-055C	07/16/03	ND						
056	FLOOR ADHESIVE (CREAM, UNDER 2' X 2' WHITE WITH VIOLET AND BLACK SPECKS RUBBER SQUARES)	MACM	100 CAFETERIA, 148	3,120 SF	0703-MAM-056A	07/16/03	ND						
					0703-MAM-056B	07/16/03	ND						
					0703-MAM-056C	07/16/03	ND						
057	FLOOR ADHESIVE (CREAM, UNDER 2' X 2' WHITE WITH ORANGE AND BLUE SPECKS RUBBER SQUARES)	MACM	150, 151, 169, 170	3,330 SF	0703-MAM-057A	07/16/03	ND						
					0703-MAM-057B	07/16/03	ND						
					0703-MAM-057C	07/16/03	ND						

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

INSPECTION DATE: 14 - 16 JUL 2003
BUILDING NUMBER: 0184 (1978)

TABLE 4.1 - RESULTS OF THE INSPECTION

HOMO. MATRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	AHERA CAT.	MATERIAL LOCATION(S)	QTY.	SAMPLE INFORMATION			FRI-ABLE	OVERALL CONDITION	ACCESS.	EPA ASS. CAT	MANAGE-MENT ACTION	COMMENTS
					NUMBER	DATE	RESULT						
058	CAULK (4"-12" DIAMETER, GRAY, ON DUCT FLANGE CONNECTIONS)	MACM	150	46 EA	0703-MAM-058A	07/16/03	ND						THIS MATERIAL IS LOCATED ON THE FLANGE CONNECTIONS OF THE DUST COLLECTION SYSTEM FOR SHOP EQUIPMENT.
					0703-MAM-058B	07/16/03	ND						
					0703-MAM-058C	07/16/03	ND						
059	FLOOR ADHESIVE (CREAM, UNDER 2' X 2' WHITE WITH YELLOW AND BLUE SPECKS RUBBER SQUARES)	MACM	171, 172	732 SF	0703-MAM-059A	07/16/03	ND						
					0703-MAM-059B	07/16/03	ND						
					0703-MAM-059C	07/16/03	ND						
060	WALLBOARD (1/2" THICK, GREEN PAPER, SMOOTH SURFACE, WHITE CORE)	MACM	157, 157A	140 SF	0703-MAM-060A	07/16/03	ND						THE JOINT COMPOUND FOR THIS MATERIAL IS MATERIAL #061.
					0703-MAM-060B	07/16/03	ND						
					0703-MAM-060C	07/16/03	ND						
061	JOINT COMPOUND (WHITE)	MACM	157, 157A	14 SF	0703-MAM-061A	07/16/03	ND						THIS IS THE JOINT COMPOUND FOR MATERIAL #060.
					0703-MAM-061B	07/16/03	ND						
					0703-MAM-061C	07/16/03	ND						
063	SUBFLOOR MATERIAL (GRAY, CEMENTITIOUS)	MACM	171, 172	732 SF	0703-MAM-063A	07/16/03	ND						THIS MATERIAL IS LOCATED BELOW THE EXISTING RUBBER FLOORING.
					0703-MAM-063B	07/16/03	ND						
					0703-MAM-063C	07/16/03	ND						
064	SHEET GASKET (4" DIAMETER, GREEN, ON PIPE FLANGE CONNECTIONS)	MACM	002	11 EA	0703-MAM-064A	07/16/03	ND						
					0703-MAM-064B	07/16/03	ND						
					0703-MAM-064C	07/16/03	ND						

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

INSPECTION DATE: 14 - 16 JUL 2003
BUILDING NUMBER: 0184 (1978)

TABLE 4.1 - RESULTS OF THE INSPECTION

HOMO. MATRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	AHERA CAT.	MATERIAL LOCATION(S)	QTY.	SAMPLE INFORMATION			FRI-ABLE	OVERALL CONDITION	ACCESS.	EPA ASS. CAT	MANAGE-MENT ACTION	COMMENTS
					NUMBER	DATE	RESULT						
THE FOLLOWING MATERIALS COULD NOT BE LOCATED IN BUILDING 0184 (1978)													
002	WALLBOARD (PANEL COVERING WORKING MECHANISM OF VENETIAN BLINDS)	MACM	201, 202, 207 LIBRARY, 216, 217, 218, 219, 224, 225, 301, 302, 307, 308, 309, 310, 315, 316, 317, 318, 323, 324	0 SF	38816	07/25/88	5% CH						THIS MATERIAL WAS REMOVED IN THE SUMMER OF 1989.
					38821	07/25/88	10% CH						
					38847	07/25/88	5% CH						
					38883	07/25/88	5% CH						
005	CEMENT DUCT (EXHAUST DUCT)	MACM	204, 213, 221, 304, 312, 320	0 SF	38818	07/25/88	5% CH						THIS MATERIAL WAS REMOVED IN THE SUMMER OF 1988.
					38824	07/25/88	10% CH						
013	BURNER PAD (5" X 5")	MACM	160	0 EA	38835	07/25/88	45% CH						THIS MATERIAL WAS REMOVED IN JULY 1988.
					38836	07/25/88	45% CH						
020	SHEET GASKET (BETWEEN MOTOR AND BOILER)	MACM	OLD BOILER ROOM	0 EA	38861	07/25/88	35% CH						AT THE TIME OF THE 1994 AHERA INSPECTION, THIS PREVIOUSLY IDENTIFIED MATERIAL COULD NOT BE LOCATED.
					38862	07/25/88	45% CH						
028	GLOVES (WHITE)	MACM	170	0 EA	38881	07/25/88	50% CH						THIS MATERIAL WAS REMOVED IN JULY 1988.
					38882	07/25/88	50% CH						
033	CEMENT FLOORING (2' X 2' OFF-WHITE, CEMENTITIOUS TILE)	MACM	129	720 SF	0504-MAM-033A	05/04/91	1-3% CH						THE ADHESIVE FOR THIS MATERIAL IS MATERIAL #034. THIS MATERIAL IS LOCATED UNDER BLUE CARPET AND ITS FLOOR ADHESIVE (MATERIAL #039). AT THE TIME OF THE 2003 AHERA INSPECTION, THIS PREVIOUSLY IDENTIFIED MATERIAL COULD NOT BE LOCATED.
					0504-MAM-033B	05/04/91	1-3% CH						
					0504-MAM-033C	05/04/91	1-5% CH						

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

INSPECTION DATE: 14 - 16 JUL 2003
BUILDING NUMBER: 0184 (1978)

TABLE 4.1 - RESULTS OF THE INSPECTION

HOMO. MATRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	AHERA CAT.	MATERIAL LOCATION(S)	QTY.	SAMPLE INFORMATION			FRI-ABLE	OVERALL CONDITION	ACCESS.	EPA ASS. CAT	MANAGE-MENT ACTION	COMMENTS
					NUMBER	DATE	RESULT						
045	FLOOR ADHESIVE (BLACK, UNDER 1' X 1' WHITE WITH GRAY STREAKS VINYL FLOOR TILE)	MACM	170	1,100 SF	1196-MAM-045A	11/07/96	3-5% CH						THIS IS THE ADHESIVE FOR MATERIAL #044. AT THE TIME OF THE 2003 AHERA INSPECTION, THIS PREVIOUSLY IDENTIFIED MATERIAL COULD NOT BE LOCATED.
					1196-MAM-045B	11/07/96	ND						
					1196-MAM-045C	11/07/96	3-7% CH						

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

INSPECTION DATE: 14 - 16 JUL 2003
BUILDING NUMBER: 0184 (1978)

TABLE 4.1 - RESULTS OF THE INSPECTION

HOMO. MATRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	AHERA CAT.	MATERIAL LOCATION(S)	QTY.	SAMPLE INFORMATION			FRI-ABLE	OVERALL CONDITION	ACCESS.	EPA ASS. CAT	MANAGE-MENT ACTION	COMMENTS
					NUMBER	DATE	RESULT						
THE FOLLOWING MATERIALS COULD NOT BE LOCATED IN BUILDING 0184 (1978)													
004	CAULK (EXPANSION JOINT)	MACM	LOBBY 33	600 SF	38819	09/01/88	ND						AT THE TIME OF THE 1997 AHERA INSPECTION, THIS PREVIOUSLY IDENTIFIED MATERIAL COULD NOT BE LOCATED.
					38822	09/01/88	ND						
006	WALLBOARD (WHITE)	MACM	STAIRWELL 1	0 SF	38820	09/01/88	ND						AT THE TIME OF THE 1997 AHERA INSPECTION, THIS PREVIOUSLY IDENTIFIED MATERIAL COULD NOT BE LOCATED.
					38889	09/01/88	ND						
011	JOINT COMPOUND (WHITE)	MACM	119	200 SF	38830	09/01/88	ND						THIS IS THE JOINT COMPOUND FOR COMPRESSED WOOD WALL PARTITIONS. AT THE TIME OF THE 2003 AHERA INSPECTION, THIS PREVIOUSLY IDENTIFIED MATERIAL COULD NOT BE LOCATED.
					38831	09/01/88	ND						
018	CEILING TILES (2' X 4', LARGE RANDOM SLASH AND HOLE PATTERN, SUSPENDED)	MACM	147 NURSE	0 SF	38855	09/01/88	ND						AT THE TIME OF THE 1997 AHERA INSPECTION, THIS PREVIOUSLY IDENTIFIED MATERIAL COULD NOT BE LOCATED.
					38856	09/01/88	ND						
044	VINYL FLOOR TILE (1' X 1' WHITE WITH GRAY STREAKS)	MACM	170	1,100 SF	1196-MAM-044A	11/07/96	ND						THE ADHESIVE FOR THIS MATERIAL IS MATERIAL #045. AT THE TIME OF THE 2003 AHERA INSPECTION, THIS PREVIOUSLY IDENTIFIED MATERIAL COULD NOT BE LOCATED.
					1196-MAM-044B	11/07/96	0-1% CH						
					1196-MAM-044C	11/07/96	0-1% CH						

5.0 RECOMMENDED MANAGEMENT ACTIONS

Table 5.1 presents recommended management actions for all ACM identified and confirmed to be present during the 2003 inspection. The information on Table 5.1 is grouped by building for each building included in the inventory at the time of the 2003 inspection. Consult the Asbestos Management Plan and the Operations and Maintenance Manual for additional management action information.

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

TABLE 5.1 - RECOMMENDED MANAGEMENT ACTIONS

BUILDING NUMBER	HOMO. MATRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	MATERIAL LOCATION(S)	COMMENTS	RECOMMENDED MANAGEMENT ACTION(S)
0184 (1978)	003	WALL PLASTER (1/16" THICK, WHITE SKIM COAT ON CONCRETE)	DISHWASH, GYMNASIUM 2, KITCHEN, KITCHEN OFFICE, KITCHEN SERVING LINE, LOBBY 1, STAIRWELL 1, STAIRWELL 2, STAIRWELL 3, 100 CAFETERIA, 111, 118A, 118B, 118C, 123, 125, 126, 127B, 128, 129, 131 SUPPLY, 135, 136A, 136B, 137 OFFICE, 138, 139, 143, 144, 145, 147 NURSE, 150A, 154, 156, 157, 158, 159, 160, 161, 162, 163, 166, 167, 168, 178, 186, 201, 202, 206, 207 LIBRARY, 208, 209, 210, 211, 212B, 214, 215, 216, 217, 218, 219, 223, 224, 225, 301, 302, 306, 307, 308, 309, 310, 311B, 314, 315, 316, 317, 318, 322, 323, 324	DUE TO RENOVATION DURING THE 2003 INSPECTION, THE FOLLOWING ROOMS WERE INACCESSIBLE FOR INSPECTION: DISHWASH, KITCHEN, KITCHEN OFFICE, KITCHEN SERVING LINE, 118A, 118B, AND 118C.	1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.
0184 (1978)	009	SHEET GASKET (2"- 4" DIAMETER, RED, ON PIPE FLANGE CONNECTIONS)	AIR HANDLING ROOM, OLD BOILER ROOM, 002, 003, 119	ONE SHEET GASKET IN THE OLD BOILER ROOM IS DAMAGED AND NEEDS TO BE REMOVED.	1. PORTIONS OF THIS MATERIAL SHOULD BE REMOVED WITHIN ONE YEAR OF RECEIPT OF THIS REPORT. 2. THIS MATERIAL COULD BE REMOVED BY QUALIFIED MAINTENANCE PERSONNEL WHO HAVE RECEIVED TRAINING IN SMALL SCALE, SHORT DURATION ABATEMENT PROJECTS. 3. FOR THE REMAINDER OF THIS MATERIAL, NO IMMEDIATE ABATEMENT IS REQUIRED. 4. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THE REMAINDER OF THIS MATERIAL. 5. CONTINUE SURVEILLANCE OF THE REMAINDER OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

TABLE 5.1 - RECOMMENDED MANAGEMENT ACTIONS

BUILDING NUMBER	HOMO. MATRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	MATERIAL LOCATION(S)	COMMENTS	RECOMMENDED MANAGEMENT ACTION(S)
0184 (1978)	010	VINYL FLOOR TILE (1' X 1' WHITE)	GYMNASIUM STORAGE, 114, 119, 131 SUPPLY, 133, 134, 135, 171, 172, 178, 186	THE ADHESIVE FOR THIS MATERIAL IS MATERIAL #032. THIS MATERIAL IS LOCATED BELOW THE EXISTING CARPET IN SOME LISTED LOCATIONS. IN ROOM 119, 320 SF ARE DAMAGED AND NEED TO BE REMOVED. IN ROOM 114, 10 SF ARE DAMAGED AND NEED TO BE REPAIRED.	1. PORTIONS OF THIS MATERIAL SHOULD BE REMOVED WITHIN SIX MONTHS OF RECEIPT OF THIS REPORT. 2. THE REMOVAL PROJECT MUST BE DESIGNED AND CONDUCTED BY EPA QUALIFIED PERSONS IN ACCORDANCE WITH AHERA REGULATIONS. 3. UNTIL REMOVAL IS COMPLETE, CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THESE PORTIONS OF THE MATERIAL. 4. PORTIONS OF THIS MATERIAL SHOULD BE REPAIRED WITHIN SIX MONTHS OF RECEIPT OF THIS REPORT. 5. THE REPAIR PROJECT MUST BE DESIGNED AND CONDUCTED BY EPA QUALIFIED PERSONS IN ACCORDANCE WITH AHERA REGULATIONS. 6. FOR THE REMAINDER OF THIS MATERIAL, NO IMMEDIATE ABATEMENT IS REQUIRED. 7. CONSULT THE O & M MANUAL CONCERNING SAFE PROCEDURES FOR BOTH THE REPAIRED AREAS PRIOR TO REMOVAL AND THE REMAINDER OF THIS MATERIAL. 8. CONTINUE SURVEILLANCE OF THE REMAINDER OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.
0184 (1978)	017	SOFFITS (2' X 4' WHITE SURFACE, CEMENTITIOUS)	ENTRANCE 1, ENTRANCE 2, ENTRANCE 3, ENTRANCE 4, ENTRANCE 5		1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.
0184 (1978)	019	CEMENT WALL PANELS (GRAY, PIPE CHASE COVER)	148, 186		1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.
0184 (1978)	021	ROPE GASKET (WHITE)	OLD BOILER ROOM	ALL OF THIS MATERIAL IS DAMAGED AND NEEDS TO BE REMOVED. THIS MATERIAL IS LOCATED ON THE 2' X 6' SELF-STANDING BOILER PLATES.	1. THIS MATERIAL SHOULD BE REMOVED WITHIN ONE YEAR OF RECEIPT OF THIS REPORT. 2. THE REMOVAL PROJECT MUST BE DESIGNED AND CONDUCTED BY EPA QUALIFIED PERSONS IN ACCORDANCE WITH AHERA REGULATIONS. 3. UNTIL REMOVAL IS COMPLETE, CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL.

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

TABLE 5.1 - RECOMMENDED MANAGEMENT ACTIONS

BUILDING NUMBER	HOMO. MATRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	MATERIAL LOCATION(S)	COMMENTS	RECOMMENDED MANAGEMENT ACTION(S)
0184 (1978)	032	FLOOR ADHESIVE (BLACK, UNDER 1' X 1' WHITE AND 1' X 1' BROWN VINYL FLOOR TILES)	GYMNASIUM STORAGE, 114, 119, 131 SUPPLY, 133, 134, 135, 171, 172, 178, 186	THIS IS THE ADHESIVE FOR MATERIALS #010 AND #023. IN ROOM 119, 320 SF ARE DAMAGED AND NEED TO BE REMOVED. IN ROOM 114, 10 SF ARE DAMAGED AND NEED TO BE REPAIRED.	1. PORTIONS OF THIS MATERIAL SHOULD BE REMOVED WITHIN SIX MONTHS OF RECEIPT OF THIS REPORT. 2. THE REMOVAL PROJECT MUST BE DESIGNED AND CONDUCTED BY EPA QUALIFIED PERSONS IN ACCORDANCE WITH AHERA REGULATIONS. 3. UNTIL REMOVAL IS COMPLETE, CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THESE PORTIONS OF THE MATERIAL. 4. PORTIONS OF THIS MATERIAL SHOULD BE REPAIRED WITHIN SIX MONTHS OF RECEIPT OF THIS REPORT. 5. THE REPAIR PROJECT MUST BE DESIGNED AND CONDUCTED BY EPA QUALIFIED PERSONS IN ACCORDANCE WITH AHERA REGULATIONS. 6. FOR THE REMAINDER OF THIS MATERIAL, NO IMMEDIATE ABATEMENT IS REQUIRED. 7. CONSULT THE O & M MANUAL CONCERNING SAFE PROCEDURES FOR BOTH THE REPAIRED AREAS PRIOR TO REMOVAL AND THE REMAINDER OF THIS MATERIAL. 8. CONTINUE SURVEILLANCE OF THE REMAINDER OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.
0184 (1978)	034	FLOOR ADHESIVE (BLACK, UNDER 2' X 2' OFF-WHITE, CEMENTITIOUS TILE)	129	THIS IS THE RESIDUAL ADHESIVE FOR MATERIAL #033. THIS MATERIAL IS LOCATED BELOW EXISTING BLUE CARPET.	1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.
0184 (1978)	035	CEMENT WALL PANELS (BROWN CEMENT BOARD)	STAIRWELL 1, STAIRWELL 2, STAIRWELL 3, STAIRWELL B1, STAIRWELL B2	THIS MATERIAL IS MOUNTED ON THE WALLS NEAR THE STAIR RAILINGS.	1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.
0184 (1978)	036	FIRE DOOR LINING (WHITE, METAL ENCASED)	OLD BOILER ROOM		1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

TABLE 5.1 - RECOMMENDED MANAGEMENT ACTIONS

BUILDING NUMBER	HOMO. MATRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	MATERIAL LOCATION(S)	COMMENTS	RECOMMENDED MANAGEMENT ACTION(S)
0184 (1978)	048	SHEET GASKET (WHITE)	OLD BOILER ROOM	ALL OF THIS MATERIAL IS DAMAGED AND NEEDS TO BE REMOVED. THIS MATERIAL IS LOCATED ON THE 2' X 6' SELF-STANDING BOILER PLATES.	1. THIS MATERIAL SHOULD BE REMOVED WITHIN ONE YEAR OF RECEIPT OF THIS REPORT. 2. THE REMOVAL PROJECT MUST BE DESIGNED AND CONDUCTED BY EPA QUALIFIED PERSONS IN ACCORDANCE WITH AHERA REGULATIONS. 3. UNTIL REMOVAL IS COMPLETE, CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL.
0184 (1978)	049	FLOOR ADHESIVE (BLACK AND YELLOW, UNDER 1' X 1' LIGHT BROWN WITH BLACK STREAKS VINYL FLOOR TILE)	153, 171	THIS IS THE ADHESIVE FOR MATERIAL #026.	1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.
0184 (1978)	062	FLOOR ADHESIVE (BLACK, UNDER PURPLE ANTI-STATIC CARPET)	163, 167, 168		1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.

APPENDIX A

AHERA ACCREDITATION STATEMENT

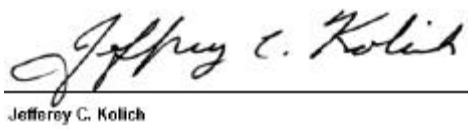
AND

INSPECTORS' CERTIFICATES

This report was prepared by Baker Environmental, Inc., Coraopolis, Pennsylvania, for the Department of Defense Education Activity (DODEA). The inspection was performed in a manner consistent with applicable regulations and guidelines.

The inspectors who inspected this school are accredited in accordance with Section 206 of Title II under the Asbestos Hazard Emergency Response Act (AHERA). The credentials are copied on the following pages.

William E. Gray



Jefferey C. Kolich

Professional Training Associates, Inc.

ASBESTOS BUILDING INSPECTOR

Refresher Training Course

Jeffrey C. Kolich

has successfully completed the Asbestos Building Inspector Refresher Course and passed the course examination for purposes of accreditation under Section 206 of Title II of the Toxic Substance Control Act (TSCA). Conducted by Professional Training Associates, Inc., 46 South Linden Street, Suite C, Duquesne, PA 15110, (412) 460-0266.

KOLICHJ
BIR030603DUQUESN

Location: **Duquesne, PA**

Course Date: **March 6, 2003**

Course Director: _____
John J. Curcio

Examination: **March 6, 2003**

Expiration: **March 6, 2004**

Certificate Number: **PTA 03 - 23 - 11418**

Professional Training Associates, Inc.

ASBESTOS BUILDING INSPECTOR

Refresher Training Course

William Gray

has successfully completed the Asbestos Building Inspector Refresher Course and passed the course examination for purposes of accreditation under Section 206 of Title II of the Toxic Substance Control Act (TSCA). Conducted by Professional Training Associates, Inc., 46 South Linden Street, Suite C, Duquesne, PA 15110, (412) 460-0266.

GRAYWIZ
BIR091202DUQUESN

Location:	**Duquesne, PA**	Examination:	**September 12, 2002**
Course date:	**September 12, 2002**	Expiration:	**September 12, 2003**
Course Director:	**John J. Curcio**	Certificate Number:	**PTA 02 - 23 - 10239**

APPENDIX B

GLOSSARY

GLOSSARY

Abatement	Procedures which are implemented to remove asbestos materials from a damaged area, functional space, or a homogeneous area.
Asbestos	A group of naturally occurring minerals that can be separated into fibers which are flexible, heat resistant and chemically inert. The following asbestos minerals are used commercially: Actinolite, Amosite, Anthophyllite, Chrysotile, Crocidolite, and Tremolite.
Asbestos-Containing Material (ACM)	Per EPA regulations, any material that contains more than 1.0 percent asbestos by weight.
Asbestos Coordinator (AC)	The person at the local level who serves as a focal point or liaison for asbestos activities. Per DODEA Asbestos Management Policy, this person is the Principal of a school, or District Superintendent at a DSO.
Asbestos Hazard Emergency Response Act (AHERA)	An Act passed by Congress and signed by the President in October 1986 which requires the EPA to promulgate regulations requiring inspections for ACM, development of asbestos management plans, and management actions with respect to friable ACM in U.S. schools including DODDS.
Asbestos Management Plan	Required by AHERA, a plan detailing the steps taken to control potential asbestos hazards in school buildings.

Asbestos Management Program	A program instituted by DODEA to comply with AHERA and to administer long-term control and surveillance of all ACM in school buildings.
Containment System	A separation or barrier system that prevents the movement of asbestos-contaminated air from the abatement work area into uncontaminated areas.
Encapsulation	The treatment of ACM with a penetrating or surface sealant in order to minimize the potential for asbestos fiber release.
Enclosure	The system of containment that creates an airtight seal or barrier between the ACM and the adjacent space.
EPA	Environmental Protection Agency
Friable	Any material which, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure.
Homogeneous Sampling Area	An area of surfacing material, thermal system insulation material, or miscellaneous material that is uniform in color or texture, serves the same function, and was installed at the same time.
Removal	The removal of ACM from any surface or component in all or a portion of a building.
Operations and Maintenance (O&M) Program	A program specifically designed to clean up asbestos fibers previously released, to prevent the release of fibers by minimizing ACM disturbance or damage, and to monitor the condition of the ACM.

Surveillance	Periodic inspection of friable and non-friable ACM on a frequency consistent with the requirements of the AHERA regulations.

APPENDIX C

PLANS OF SAMPLE LOCATIONS

Common Spaces

Abbreviations and Designations

Room abbreviations and designations that may be used on the following sample location drawings are:

BR - **Boiler Room**

E - **Entry** - Exterior side of entry door

ER - **Electrical Rooms** - Includes telephone connection closets or LAN connection rooms

J - **Janitors Closets** - These are small spaces under stairwells and where cleaning supplies are stored

K - **Kitchen** - Includes dishwashing areas

LR - **Locker Room**

MR - **Mechanical Room** - Includes utility rooms and rooms housing air handling units

PC - **Pipe Chase**

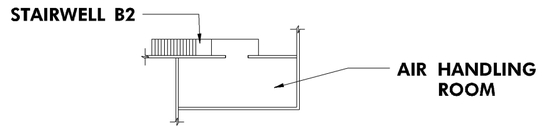
SH - **Shower**

SL - **Stairwell**

SY - **Stairway**

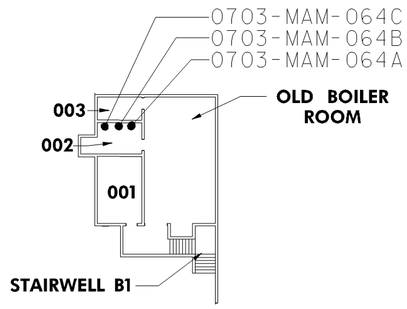
T - **Toilets** - Includes Boys, Girls, Mens, Womens, Staff, Handicapped, and small classroom toilets

V - **Vestibules** - Small lobbies and very short corridors near entrances of buildings



BUILDING 0184 – PARTIAL BASEMENT PLAN

(UNDER GYMNASIUM STORAGE)



LEGEND

116	Room No. (Typical)
●	Sample Location
0203-STU-001	Sample Containing ACM
0203-STU-100	Sample Not Containing ACM
0203-STU-100*	Sample Not Analyzed

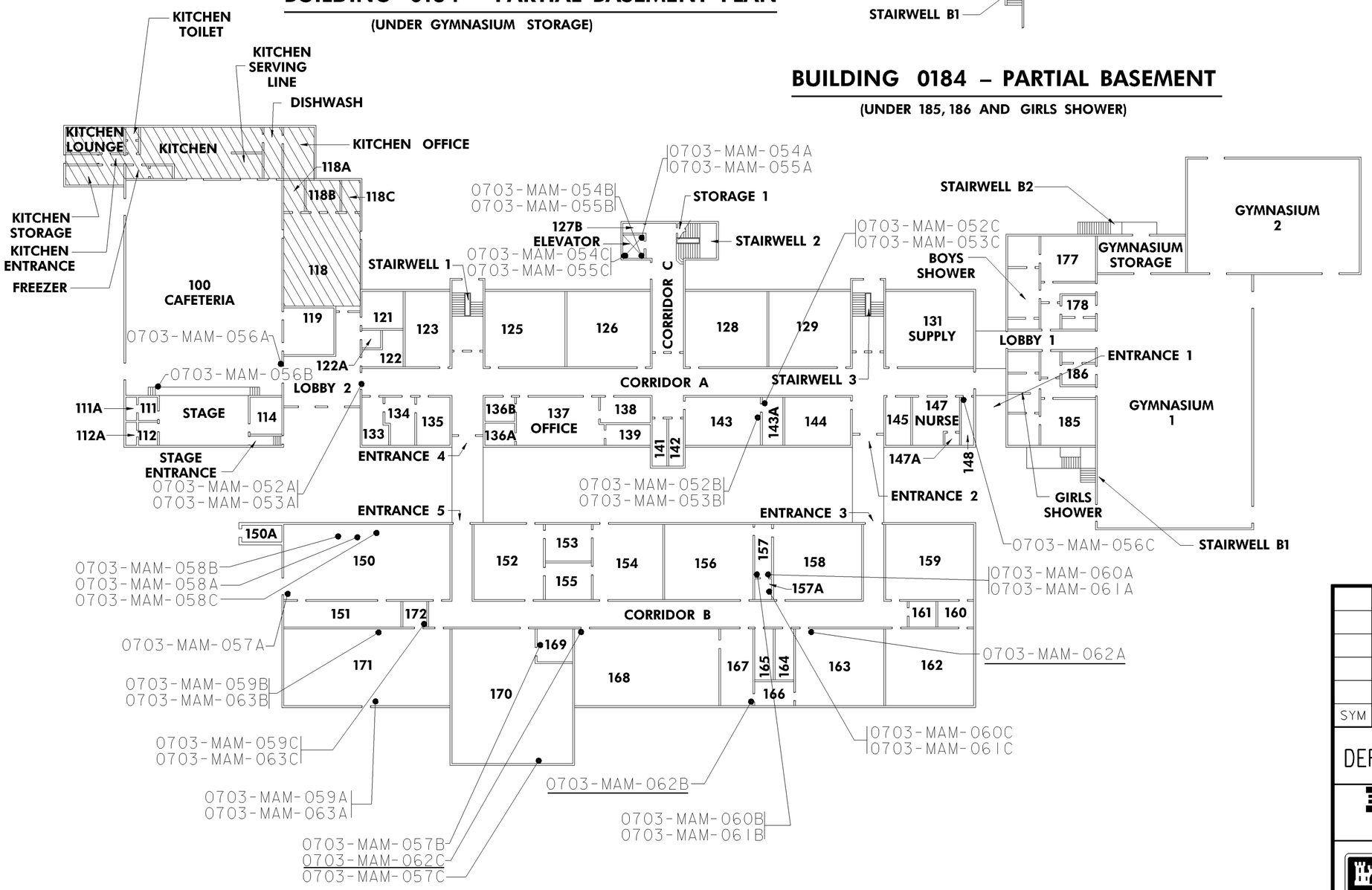
GENERAL NOTE:

THE FLOOR PLANS ON THIS DRAWING ARE FOR GENERAL ORIENTATION AND CONCEPTUAL PLANNING ONLY. THEY WERE DRAWN FROM A VARIETY OF SOURCES WITHOUT REPRESENTATION AS TO ACCURACY OR SCALE. THEREFORE, THEY ARE NOT SUITABLE FOR DETAILED DESIGN, ENGINEERING, OR CONSTRUCTION USE.

Rooms Were Under Renovation and Inaccessible for Inspection

BUILDING 0184 – PARTIAL BASEMENT

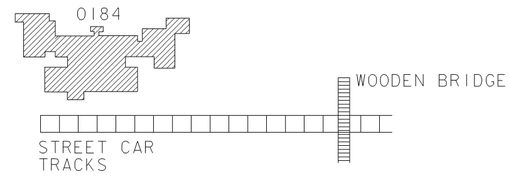
(UNDER 185, 186 AND GIRLS SHOWER)



BUILDING 0184 – FIRST FLOOR PLAN

NOTE:
ONLY SAMPLES TAKEN DURING THE AHERA INSPECTION ARE SHOWN.

10′ 0′ 10′ 20′ 30′ 40′



KEY PLAN

SYM	REVISIONS	DATE	APPROVED

DEPARTMENT OF DEFENSE DEPENDENTS SCHOOLS

Baker Environmental
A Unit of Michael Baker Corporation
100 Airside Drive
Moon Township, PA 15108

U.S. ARMY CORPS OF ENGINEERS
TRANSATLANTIC PROGRAMS CENTER

US Army Corps of Engineers

ASBESTOS SAMPLE LOCATIONS
2003 AHERA INSPECTION

MANNHEIM AMERICAN MIDDLE SCHOOL
MANNHEIM, GERMANY
HE 3433

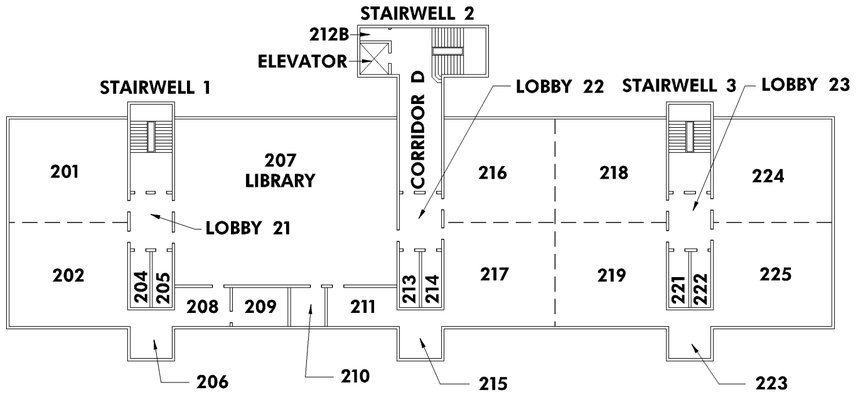
BUILDING 0184 – FIRST FLOOR AND PARTIAL BASEMENT PLANS

SHEET REF. NO. 1

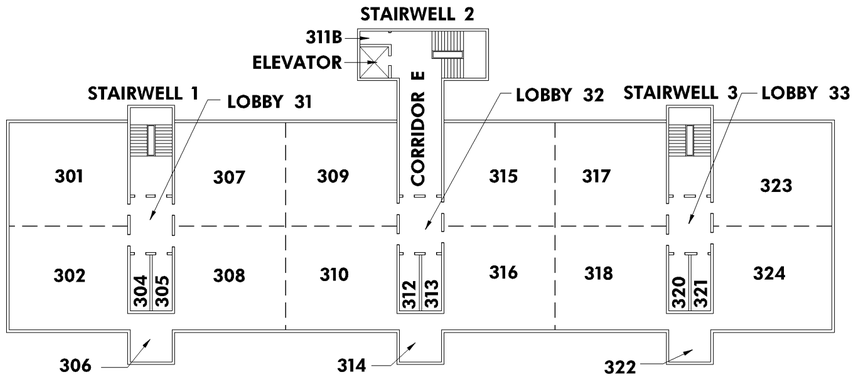
MED FILE NO.

SHEET

K:\DODEA\AHERA MASTER DRAWINGS\EUROPE\MANNHEIM MS.DGN



BUILDING 0184 – SECOND FLOOR PLAN



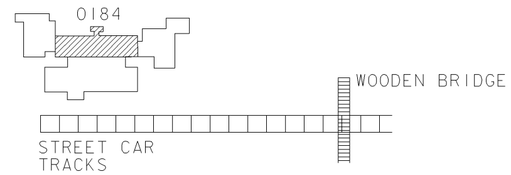
BUILDING 0184 – THIRD FLOOR PLAN

LEGEND

116	Room No. (Typical)
	Sample Location
0203-STU-001	Sample Containing ACM
0203-STU-100	Sample Not Containing ACM
0203-STU-100*	Sample Not Analyzed

GENERAL NOTE:

THE FLOOR PLANS ON THIS DRAWING ARE FOR GENERAL ORIENTATION AND CONCEPTUAL PLANNING ONLY. THEY WERE DRAWN FROM A VARIETY OF SOURCES WITHOUT REPRESENTATION AS TO ACCURACY OR SCALE. THEREFORE, THEY ARE NOT SUITABLE FOR DETAILED DESIGN, ENGINEERING, OR CONSTRUCTION USE.



KEY PLAN

NOTE:
ONLY SAMPLES TAKEN DURING THE AHERA INSPECTION ARE SHOWN.

10' 0' 10' 20' 30' 40'

SYM	REVISIONS	DATE	APPROVED

DEPARTMENT OF DEFENSE DEPENDENTS SCHOOLS

Baker Environmental
A Unit of Michael Baker Corporation
100 Airside Drive
Moon Township, PA 15108

U.S. ARMY CORPS OF ENGINEERS
TRANSATLANTIC PROGRAMS CENTER

US Army Corps of Engineers

ASBESTOS SAMPLE LOCATIONS
2003 AHERA INSPECTION

MANNHEIM AMERICAN MIDDLE SCHOOL
MANNHEIM, GERMANY
HE 3433
BUILDING 0184
SECOND AND THIRD FLOOR PLANS

SHEET REF. NO. 2

MED FILE NO.

SHEET

K:\DODEA\AHERA MASTER DRAWINGS\EUROPE\MANNHEIM MS2.DGN

APPENDIX D

LABORATORY SAMPLE ANALYSIS REPORTS

RJ Lee Group, Inc.

350 Hochberg Road, Monroeville, PA 15146
Phone: (724) 325-1776 Fax: (724) 733-1799

Laboratory Report

Baker Environmental
Airside Business Park
100 Airside Drive
Moon Township, PA 15108
Attention: Ms. Donna M. Neal
Telephone: 412-269-6300

Report Date	7/24/2003
Sample Receipt Date.	7/21/2003
RJ Lee Group Job No	BAK307040
Client Job No.	101323 1.1/Mannheim American Middle School HE 3433
Authorization/P.O. No.	101323 1.1

Analysis: Asbestos in Bulk Samples
Method: EPA/600/R-93/116

RJLG Sample Number	Client Sample Number	Homogeneous	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst	Analysis Date
2622404.HPL	0703-MAM-052A	Yes	ND	2 CE, <1 FG	98 %	B, G, M	AKB	7/23/2003
Description: Light Gray Drywall								
2622405.HPL	0703-MAM-052B	Yes	ND	2 CE, 2 FG	96 %	B, G, M	AKB	7/23/2003
Description: Light Gray Drywall								
2622406.HPL	0703-MAM-052C	Yes	ND	3 CE, 2 FG	95 %	B, G, M	AKB	7/23/2003
Description: Light Gray Drywall								
2622407.HPL	0703-MAM-053A	Yes	ND	-	100 %	B, M	AKB	7/23/2003
Description: White Joint Compound								
2622408.HPL	0703-MAM-053B	Yes	ND	-	100 %	B, M	AKB	7/23/2003
Description: White Joint Compound								
2622409.HPL	0703-MAM-053C	Yes	ND	-	100 %	B, M	AKB	7/23/2003
Description: White Joint Compound								

RJ Lee Group Job No: BAK307040
Client Job No: 101323 1.1/Mannheim Amer
Middle School HE 3433

RJLG Sample Number	Client Sample Number	Homogeneous	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst	Analysis Date
2622410.HPL	0703-MAM-054A	Yes	ND	-	100 %	B, M	AKB	7/23/2003
Description: Gray Linoleum								
2622411.HPL	0703-MAM-054B	Yes	ND	-	100 %	B, M	AKB	7/23/2003
Description: Gray Linoleum								
2622412.HPL	0703-MAM-054C	Yes	ND	-	100 %	B, M	AKB	7/23/2003
Description: Gray Linoleum								
2622413.HPL	0703-MAM-055A	Yes	ND	<1 CE	100 %	B, M	AKB	7/23/2003
Description: Transparent Glue								
2622414.HPL	0703-MAM-055B	Yes	ND	-	100 %	B, M	AKB	7/23/2003
Description: Transparent Glue								
2622415.HPL	0703-MAM-055C	Yes	ND	-	100 %	B, M	AKB	7/23/2003
Description: Transparent Glue								
2622416.HPL	0703-MAM-056A	Yes	ND	-	100 %	B, M	AKB	7/23/2003
Description: Beige Adhesive								
2622417.HPL	0703-MAM-056B	Yes	ND	-	100 %	B, M	AKB	7/23/2003
Description: Beige Adhesive								
2622418.HPL	0703-MAM-056C	Yes	ND	<1 CE	100 %	B, M	AKB	7/23/2003
Description: Beige Adhesive								

RJ Lee Group Job No: BAK307040
Client Job No: 101323 1.1/Mannheim Amer
Middle School HE 3433

RJLG Sample Number	Client Sample Number	Homogeneous	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst	Analysis Date
2622419.HPL	0703-MAM-057A	Yes	ND	<1 CE	100 %	B, M	AKB	7/23/2003
Description: Beige Adhesive								
2622420.HPL	0703-MAM-057B	Yes	ND	-	100 %	B, M	AKB	7/23/2003
Description: Beige Adhesive								
2622421.HPL	0703-MAM-057C	Yes	ND	-	100 %	B, M	AKB	7/23/2003
Description: Beige Adhesive								
2622422.HPL	0703-MAM-058A	Yes	ND	-	100 %	B, M	AKB	7/23/2003
Description: Gray Putty								
2622423.HPL	0703-MAM-058B	Yes	ND	<1 CE, <1 W	100 %	B, M	AKB	7/23/2003
Description: Gray Putty								
2622424.HPL	0703-MAM-058C	Yes	ND	<1 CE, <1 W	100 %	B, M	AKB	7/23/2003
Description: Gray Putty								
2622425.HPL	0703-MAM-059A	Yes	ND	<1 CE	100 %	B, M	AKB	7/24/2003
Description: Beige Adhesive								
2622426.HPL	0703-MAM-059B	Yes	ND	<1 CE	100 %	B, M	AKB	7/24/2003
Description: Beige Adhesive								
2622427.HPL	0703-MAM-059C	Yes	ND	<1 CE	100 %	B, M	AKB	7/24/2003
Description: Beige Adhesive								

RJ Lee Group Job No: BAK307040
Client Job No: 101323 1.1/Mannheim Amer
Middle School HE 3433

RJLG Sample Number	Client Sample Number	Homogeneous	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst	Analysis Date
2622428.HPL	0703-MAM-060A	Yes	ND	5 CE, 2 FG	93 %	B, G, M	AKB	7/24/2003
Description: Light Gray Drywall								
2622429.HPL	0703-MAM-060B	Yes	ND	2 CE, 2 FG	96 %	B, G, M	AKB	7/24/2003
Description: Light Gray Drywall								
2622430.HPL	0703-MAM-060C	Yes	ND	2 CE, 2 FG	96 %	B, G, M	AKB	7/24/2003
Description: Light Gray Drywall								
2622431.HPL	0703-MAM-061A	Yes	ND	<1 CE	100 %	B, M	AKB	7/24/2003
Description: White Joint Compound								
2622432.HPL	0703-MAM-061B	Yes	ND	3 CE	97 %	B, M	AKB	7/24/2003
Description: White Joint Compound								
2622433.HPL	0703-MAM-061C	Yes	ND	3 CE	97 %	B, M	AKB	7/24/2003
Description: White Joint Compound								
2622434.HPL	0703-MAM-062A	Yes	3 CH	-	97 %	B, M	AKB	7/24/2003
Description: Black Mastic								
2622435.HPL	0703-MAM-062B	Yes	3 CH	-	97 %	B, M	AKB	7/24/2003
Description: Black Mastic								
2622436.HPL	0703-MAM-062C	Yes	2 CH	-	98 %	B, M	AKB	7/24/2003
Description: Black Mastic								

RJ Lee Group Job No: BAK307040
Client Job No: 101323 1.1/Mannheim Amer
Middle School HE 3433

RJLG Sample Number	Client Sample Number	Homogeneous	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst	Analysis Date
2622437.HPL	0703-MAM-063A	Yes	ND	-	100 %	B, M	AKB	7/24/2003
Description: Gray Leveling Compound								
2622438.HPL	0703-MAM-063B	Yes	ND	-	100 %	B, M	AKB	7/24/2003
Description: Gray Leveling Compound								
2622439.HPL	0703-MAM-063C	Yes	ND	-	100 %	B, M	AKB	7/24/2003
Description: Gray Leveling Compound								
2622440.HPL	0703-MAM-064A	Yes	ND	90 CE, <1 FG	10 %	B, M	AKB	7/24/2003
Description: Tan Flange Gasket								
2622441.HPL	0703-MAM-064B	Yes	ND	90 CE, <1 FG	10 %	B, M	AKB	7/24/2003
Description: Tan Flange Gasket								
2622442.HPL	0703-MAM-064C	Yes	ND	90 CE, 1 FG	9 %	B, M	AKB	7/24/2003
Description: Yellow Flange Gasket								

RJ Lee Group Job No: BAK307040

Authorized Signature Allan K. Bullock

Allan K. Bullock, Microscopist

ASBESTOS

AM = Amosite
AC = Actinolite
AN = Anthophyllite
CH = Chrysotile
CR = Crocidolite
TR = Tremolite

NON-ASBESTOS

CE = Cellulose
MW = Mineral Wool
FG = Fibrous Glass
SF = Synthetic Fibers
H = Hair
W = Wollastonite
OF = Other Fibers

NON-FIBROUS MATERIALS

AM = Amphibole
B = Binder
CA = Carbonates
CL = Clay
F = Feldspar
G = Gypsum
HY = Hydromagnesite
M = Miscellaneous
MI = Mica
OP = Opaque
OR = Organic
P = Perlite
Q = Quartz
T = Tar
V = Vermiculite

DISCLAIMER NOTES

- "ND" indicates no asbestos was detected; the method detection limit is 1%.
- "Trace" or "<1" indicates asbestos was identified in the sample, but the concentration is less than the method quantitation limit of 1%. PLM coefficients of variance range from approximately 1.8 at the quantitation limit of 1% to 0.1 at high fiber concentrations.
- Samples are archived for three months following analysis and are then properly discarded.
- These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which these results are used or interpreted.
- This test report relates to the items tested.
- This report is not valid unless it bears the name of a NVLAP-approved signatory.
- Any reproduction of this document must include the entire document in order for the report to be valid.
- This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.
- Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar nonfriable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as "non-asbestos-containing."
- Sample(s) for this project were analyzed at our: Monroeville, PA (AIHA #100364, NVLAP #101208-0, NY ELAP #10884) facility.

DEPARTMENT OF DEFENSE
EDUCATION ACTIVITY
ASBESTOS MANAGEMENT PROGRAM

2003
Asbestos Management Plan

for

Mannheim American Middle School
Mannheim-Kaefertal, Germany
HE 3433

Prepared For:

Department of Defense Education Activity
Logistics Division
4040 North Fairfax Drive
Arlington, Virginia 22203-1635

Prepared By:

Baker Environmental, Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

Under Contract With:

U.S. Army Corps of Engineers
Transatlantic Programs Center
Winchester, Virginia

ASBESTOS MANAGEMENT PLAN
FOR
MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

TABLE OF CONTENTS

TABLE OF CONTENTS (cont.)

TABLES (cont.)

APPENDICES

IMPORTANT FOREWORD

The information presented herein, together with historical records for this location, satisfies the reporting requirements of the AHERA legislation and DODEA policy regarding Asbestos Management Plans.

FOR A SUMMARY TABULATION OF WHERE ASBESTOS WAS FOUND, AND WHAT SHOULD BE DONE ABOUT IT, PLEASE REFER TO TABLE 5.1 PRINTED ON BLUE-TINTED PAPER.

Please also note that not all building materials have been tested. Examples of this may be materials which are hidden from view, inaccessible, or where sampling would be destructive. **THEREFORE, THERE IS NO ASSURANCE THAT UNTESTED MATERIALS ARE ASBESTOS-FREE.**

1.0 INTRODUCTION

This Asbestos Management Plan for Mannheim American Middle School is a result of the inspection conducted by Baker Environmental, Inc. (Baker). The Asbestos Management Plan should be used in combination with the 2003 AHERA Inspection Report and the Operations and Maintenance Manual.

This plan contains all of the elements described in the U.S. Environmental Protection Agency (EPA) Rule, "Asbestos-Containing Materials in Schools," 40 Code of Federal Regulations (CFR), Part 763. The EPA Rule was promulgated on October 30, 1987, as required by the Asbestos Hazard Emergency Response Act (AHERA) of 1986. This Asbestos Management Plan was developed by an EPA-accredited management planner and includes:

- A description of inspections and management actions;
- Recommendations;
- Names of accredited persons who performed required work; and
- A plan for inspection, periodic surveillance, and operations and maintenance.

Under AHERA, a Local Education Agency or "LEA" has numerous responsibilities. For the Department of Defense Dependents Schools (DODDS), the LEA is defined as "the governing authority of any school operated under the defense dependents' education system provided for under the Defense Dependents' Education Act of 1978." In accordance with DODEA's Asbestos Management Program Procedures (DS Manual 4800.3), the Asbestos Program Manager at DODEA headquarters will serve the function of the LEA. The LEA responsibilities include the following:

- Ensure that the activities of any persons who perform inspections, reinspections, and periodic surveillance, develop and update management plans, and develop and implement response actions, including operations and maintenance, are carried out in accordance with Subpart E of this part.

- Ensure that all custodial and maintenance employees are properly trained as required by Subpart E of AHERA (reference (b)) and other applicable Federal and/or State regulations (e.g., the Occupational Safety and Health Administration asbestos standard for construction, the EPA worker protection rule, or applicable State regulations).

- Ensure that workers and building occupants, or their legal guardians, are informed at least once each school year about inspections, response actions, and post-response action activities, including periodic reinspection and surveillance activities that are planned or in progress.

- Ensure that short-term workers (e.g., telephone repair workers, utility workers, or exterminators) who may come in contact with asbestos in a school are provided information regarding the locations of ACM and suspected ACM assumed to be ACM.

- Ensure that warning labels are posted in accordance with Part 763.95 of AHERA (reference (b)).

- Ensure that management plans are available for inspection and notification of such availability has been provided as specified in the management plan in Part 763.93(g) of AHERA (reference (b)).

- Designate an Asbestos Coordinator (AC) to ensure that requirements of the LEA are properly implemented at the local level. Principals are hereby designated as the AC for their facilities. For non-school facilities, the AC shall be the Administrative Manager of the unit.

- Ensure that the AC and/or their designated person receives adequate training to perform duties assigned under this section. Such training shall provide, as necessary, basic knowledge of:

  -- Health effects of asbestos.
  -- Detection, identification, and assessment of ACM.
  -- Options for controlling ACM.
  -- Asbestos management programs.
  -- Relevant Federal and State regulations concerning asbestos, including those in this Subpart E and those of the Occupational Safety and Health Administration, U.S. Department of Labor, the U.S. Department of Transportation and the U.S. Environmental Protection Agency.

- Ensure that the presence of ACM in a DODEA building is considered before initiating repair, maintenance, or construction projects.

- Provide timely notifications of fiber releases to all appropriate DODEA personnel, employee representative organizations, base command, and parents.

2.0 LOCAL EDUCATION AGENCY REPRESENTATIVE

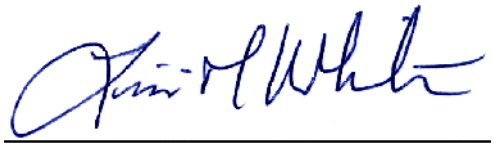
The LEA Representative designated by the Department of Defense Education Activity (DODEA) to ensure that the general LEA responsibilities described in Title 40 CFR, Part 763.84, are carried out is:

Ms. Liisa M. White
Department of Defense Education Activity
Logistics Division/Facilities Branch
4040 North Fairfax Drive
Arlington, VA 22203-1635
(703) 696-3850 (ext. 1801)
(703) 696-4030 (Fax)

This individual is qualified to perform the duties assigned to the LEA Representative as described in Title 40 CFR, Part 763.

LEA Certification

As the LEA Representative, I certify that responsibilities as stipulated by Title 40 CFR, Section 763.84, have been met or will be met to the extent feasible and in a manner consistent with national security.



Liisa M. White

3.0 ASBESTOS COORDINATOR (AC)

The current Asbestos Coordinator (AC) designated to carry out the duties of the LEA at Mannheim American Middle School is:

Ms. Jaqueline Yardley
Mannheim American Middle School
Unit 29937
APO AE 09086

Telephone: 49-621-720050
Telefax: 49-621-7200555

According to asbestos management program procedures described in DODEA's DS Manual 4800.3, Section D, Paragraph 3:

> "The AC will assume the duties directly or may delegate the duties to a staff employee at the local level; however, the AC retains the responsibility and accountability for implementation of the asbestos program at the local level."

If the above named AC has delegated responsibilities, please insert information below:

Name	Signature	Timeframe

4.0 SUMMARY OF INSPECTION FINDINGS

The 2003 AHERA Inspection (2003 inspection) of Mannheim American Middle School was conducted on 14-16 July 2003. Table 4.1 following this page summarizes the findings concerning the presence of ACM in each building.

Detailed results of the 2003 inspection, sample locations, ACM condition assessments, sample analysis, and inspector accreditation credentials are included in the 2003 AHERA Inspection Report for Mannheim American Middle School. A copy of this report was included with this Asbestos Management Plan when it was submitted to Ms. Jaqueline Yardley.

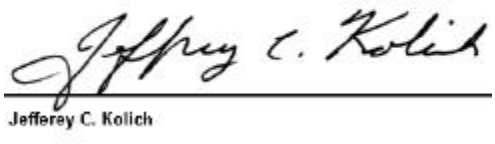
TABLE 4.1 - ACM IN EACH BUILDING

BUILDING NUMBER	HOMO. MATERIAL NUMBER	MATERIAL TYPE (MATERIAL DESCRIPTION)	MATERIAL LOCATION(S)
0184 (1978)	003	WALL PLASTER (1/16" THICK, WHITE SKIM COAT ON CONCRETE)	DISHWASH, GYMNASIUM 2, KITCHEN KITCHEN OFFICE, KITCHEN SERVING LINE, LOBBY 1, STAIRWELL 1, STAIRWELL 2, STAIRWELL 3, 100 CAFETERIA, 111, 118A, 118B, 118C, 1 125, 126, 127B, 128, 129, 131 SUPPLY 136A, 136B, 137 OFFICE, 138, 139, 14 144, 145, 147 NURSE, 150A, 154, 156, 158, 159, 160, 161, 162, 163, 166, 167, 178, 186, 201, 202, 206, 207 LIBRARY, 209, 210, 211, 212B, 214, 215, 216, 217 219, 223, 224, 225, 301, 302, 306, 307, 309, 310, 311B, 314, 315, 316, 317, 318 323, 324
0184 (1978)	009	SHEET GASKET (2"- 4" DIAMETER, RED, ON PIPE FLANGE CONNECTIONS)	AIR HANDLING ROOM, OLD BOILER ROOM, 002, 003, 119
0184 (1978)	010	VINYL FLOOR TILE (1' X 1' WHITE)	GYMNASIUM STORAGE, 114, 119, 13 SUPPLY, 133, 134, 135, 171, 172, 178,
0184 (1978)	017	SOFFITS (2' X 4' WHITE SURFACE, CEMENTITIOUS)	ENTRANCE 1, ENTRANCE 2, ENTRAN 3, ENTRANCE 4, ENTRANCE 5
0184 (1978)	019	CEMENT WALL PANELS (GRAY, PIPE CHASE COVER)	148, 186
0184 (1978)	021	ROPE GASKET (WHITE)	OLD BOILER ROOM
0184 (1978)	032	FLOOR ADHESIVE (BLACK, UNDER 1' X 1' WHITE AND 1' X 1' BROWN VINYL FLOOR TILES)	GYMNASIUM STORAGE, 114, 119, 13 SUPPLY, 133, 134, 135, 171, 172, 178,
0184 (1978)	034	FLOOR ADHESIVE (BLACK, UNDER 2' X 2' OFF-WHITE, CEMENTITIOUS TILE)	129
0184 (1978)	035	CEMENT WALL PANELS (BROWN CEMENT BOARD)	STAIRWELL 1, STAIRWELL 2, STAIRW 3, STAIRWELL B1, STAIRWELL B2
0184 (1978)	036	FIRE DOOR LINING (WHITE, METAL ENCASED)	OLD BOILER ROOM
0184 (1978)	048	SHEET GASKET (WHITE)	OLD BOILER ROOM
0184 (1978)	049	FLOOR ADHESIVE (BLACK AND YELLOW, UNDER 1' X 1' LIGHT BROWN WITH BLACK STREAKS VINYL FLOOR TILE)	153, 171
0184 (1978)	062	FLOOR ADHESIVE (BLACK, UNDER PURPLE ANTI-STATIC CARPET)	163, 167, 168

5.0 RECOMMENDED MANAGEMENT ACTIONS

5.1 Management Planner

The recommended management actions for each ACM or assumed ACM are presented in Table 5.1. These recommendations were prepared by the Baker Management Planner identified below:



The Management Planner became accredited by successfully completing an EPA-approved course developed under Section 206(c) of Title II of the Toxic Substances Control Act. A copy of the Management Planner's accreditation certificate is located in Appendix A.

Table 5.1 includes blank Begin Date and End Date columns. These columns were included to assist the AC in documenting implementation of recommended management actions. Upon satisfactory completion of each management action, the AC will record the date in the appropriate space on Table 5.1 and forward a copy of the page to the Area Office.

5.2 Reasons for Selecting Management Actions

The rationale for selecting the management actions recommended in this report is based on guidelines presented in the EPA Rule "Asbestos-Containing Materials in Schools" and DODEA policy. The rationale is as follows:

- Significantly damaged surfacing material and miscellaneous material is likely to release asbestos fibers into the air; therefore, these material(s) should be removed and replaced with material(s) that do not contain asbestos, or encapsulated or enclosed if such action would be feasible and sufficient to protect human health and the environment.

- Damaged surfacing material and miscellaneous material may release asbestos fibers into the air; therefore, the damaged areas should be immediately repaired. If repair of the damaged area(s) is not feasible, the material should be removed and replaced with a material that does not contain asbestos, or encapsulated or enclosed if such action would be feasible and sufficient to protect human health and the environment.

- Damaged or significantly damaged thermal system insulation may release asbestos fibers into the air; therefore, the damaged areas should be repaired to inhibit asbestos fiber release. After these repairs are completed, the insulation should be maintained in an intact state and undamaged condition or removed and replaced with a material that does not contain asbestos. If repair of the damaged areas is not feasible, the material should be removed.

- ACM with a potential for damage, including thermal system insulation, surfacing material, or miscellaneous material, may release asbestos fibers into the air if damaged; therefore, the material should be properly maintained in accordance with an operations and maintenance program or removed and replaced with a material that does not contain asbestos.

- ACM with a potential for significant damage, including thermal system insulation, surfacing material, or miscellaneous material, is likely to release asbestos fibers into the air if damaged significantly; therefore, preventive measures should be taken to ensure that the material will not become significantly damaged. An operations and maintenance program should be implemented, or the material should be enclosed or encapsulated or removed and replaced as soon as possible with a material that does not contain asbestos.

- Any ACM, regardless of condition, that may be disturbed by any planned action such as maintenance, installation, and construction, or any other modification to the building, must be removed prior to conducting the planned action.

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

TABLE 5.1 - RECOMMENDED MANAGEMENT ACTIONS FOR ACM

BUILDING NUMBER	HOMO. MTRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	FRI-ABLE	MATERIAL LOCATION(S)	COMMENTS	RECOMMENDED MANAGEMENT ACTION(S)	BEGIN DATE	END DATE
0184 (1978)	003	WALL PLASTER (1/16" THICK, WHITE SKIM COAT ON CONCRETE)	NO	DISHWASH, GYMNASIUM 2, KITCHEN, KITCHEN OFFICE, KITCHEN SERVING LINE, LOBBY 1, STAIRWELL 1, STAIRWELL 2, STAIRWELL 3, 100 CAFETERIA, 111, 118A, 118B, 118C, 123, 125, 126, 127B, 128, 129, 131 SUPPLY, 135, 136A, 136B, 137 OFFICE, 138, 139, 143, 144, 145, 147 NURSE, 150A, 154, 156, 157, 158, 159, 160, 161, 162, 163, 166, 167, 168, 178, 186, 201, 202, 206, 207 LIBRARY, 208, 209, 210, 211, 212B, 214, 215, 216, 217, 218, 219, 223, 224, 225, 301, 302, 306, 307, 308, 309, 310, 311B, 314, 315, 316, 317, 318, 322, 323, 324	DUE TO RENOVATION DURING THE 2003 INSPECTION, THE FOLLOWING ROOMS WERE INACCESSIBLE FOR INSPECTION: DISHWASH, KITCHEN, KITCHEN OFFICE, KITCHEN SERVING LINE, 118A, 118B, AND 118C.	1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.		
0184 (1978)	009	SHEET GASKET (2"- 4" DIAMETER, RED, ON PIPE FLANGE CONNECTIONS)	NO	AIR HANDLING ROOM, OLD BOILER ROOM, 002, 003, 119	ONE SHEET GASKET IN THE OLD BOILER ROOM IS DAMAGED AND NEEDS TO BE REMOVED.	1. PORTIONS OF THIS MATERIAL SHOULD BE REMOVED WITHIN ONE YEAR OF RECEIPT OF THIS REPORT. 2. THIS MATERIAL COULD BE REMOVED BY QUALIFIED MAINTENANCE PERSONNEL WHO HAVE RECEIVED TRAINING IN SMALL SCALE, SHORT DURATION ABATEMENT PROJECTS. 3. FOR THE REMAINDER OF THIS MATERIAL, NO IMMEDIATE ABATEMENT IS REQUIRED. 4. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THE REMAINDER OF THIS MATERIAL. 5. CONTINUE SURVEILLANCE OF THE REMAINDER OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.		

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

TABLE 5.1 - RECOMMENDED MANAGEMENT ACTIONS FOR ACM

BUILDING NUMBER	HOMO. MTRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	FRI-ABLE	MATERIAL LOCATION(S)	COMMENTS	RECOMMENDED MANAGEMENT ACTION(S)	BEGIN DATE	END DATE
0184 (1978)	010	VINYL FLOOR TILE (1' X 1' WHITE)	NO	GYMNASIUM STORAGE, 114, 119, 131 SUPPLY, 133, 134, 135, 171, 172, 178, 186	THE ADHESIVE FOR THIS MATERIAL IS MATERIAL #032. THIS MATERIAL IS LOCATED BELOW THE EXISTING CARPET IN SOME LISTED LOCATIONS. IN ROOM 119, 320 SF ARE DAMAGED AND NEED TO BE REMOVED. IN ROOM 114, 10 SF ARE DAMAGED AND NEED TO BE REPAIRED.	1. PORTIONS OF THIS MATERIAL SHOULD BE REMOVED WITHIN SIX MONTHS OF RECEIPT OF THIS REPORT. 2. THE REMOVAL PROJECT MUST BE DESIGNED AND CONDUCTED BY EPA QUALIFIED PERSONS IN ACCORDANCE WITH AHERA REGULATIONS. 3. UNTIL REMOVAL IS COMPLETE, CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THESE PORTIONS OF THE MATERIAL. 4. PORTIONS OF THIS MATERIAL SHOULD BE REPAIRED WITHIN SIX MONTHS OF RECEIPT OF THIS REPORT. 5. THE REPAIR PROJECT MUST BE DESIGNED AND CONDUCTED BY EPA QUALIFIED PERSONS IN ACCORDANCE WITH AHERA REGULATIONS. 6. FOR THE REMAINDER OF THIS MATERIAL, NO IMMEDIATE ABATEMENT IS REQUIRED. 7. CONSULT THE O & M MANUAL CONCERNING SAFE PROCEDURES FOR BOTH THE REPAIRED AREAS PRIOR TO REMOVAL AND THE REMAINDER OF THIS MATERIAL. 8. CONTINUE SURVEILLANCE OF THE REMAINDER OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.		
0184 (1978)	017	SOFFITS (2' X 4' WHITE SURFACE, CEMENTITIOUS)	NO	ENTRANCE 1, ENTRANCE 2, ENTRANCE 3, ENTRANCE 4, ENTRANCE 5		1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.		
0184 (1978)	019	CEMENT WALL PANELS (GRAY, PIPE CHASE COVER)	NO	148, 186		1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.		

TABLE 5.1 - RECOMMENDED MANAGEMENT ACTIONS FOR ACM

BUILDING NUMBER	HOMO. MTRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	FRI-ABLE	MATERIAL LOCATION(S)	COMMENTS	RECOMMENDED MANAGEMENT ACTION(S)	BEGIN DATE	END DATE
0184 (1978)	021	ROPE GASKET (WHITE)	YES	OLD BOILER ROOM	ALL OF THIS MATERIAL IS DAMAGED AND NEEDS TO BE REMOVED. THIS MATERIAL IS LOCATED ON THE 2' X 6' SELF-STANDING BOILER PLATES.	1. THIS MATERIAL SHOULD BE REMOVED WITHIN ONE YEAR OF RECEIPT OF THIS REPORT. 2. THE REMOVAL PROJECT MUST BE DESIGNED AND CONDUCTED BY EPA QUALIFIED PERSONS IN ACCORDANCE WITH AHERA REGULATIONS. 3. UNTIL REMOVAL IS COMPLETE, CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL.		
0184 (1978)	032	FLOOR ADHESIVE (BLACK, UNDER 1' X 1' WHITE AND 1' X 1' BROWN VINYL FLOOR TILES)	NO	GYMNASIUM STORAGE, 114, 119, 131 SUPPLY, 133, 134, 135, 171, 172, 178, 186	THIS IS THE ADHESIVE FOR MATERIALS #010 AND #023. IN ROOM 119, 320 SF ARE DAMAGED AND NEED TO BE REMOVED. IN ROOM 114, 10 SF ARE DAMAGED AND NEED TO BE REPAIRED.	1. PORTIONS OF THIS MATERIAL SHOULD BE REMOVED WITHIN SIX MONTHS OF RECEIPT OF THIS REPORT. 2. THE REMOVAL PROJECT MUST BE DESIGNED AND CONDUCTED BY EPA QUALIFIED PERSONS IN ACCORDANCE WITH AHERA REGULATIONS. 3. UNTIL REMOVAL IS COMPLETE, CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THESE PORTIONS OF THE MATERIAL. 4. PORTIONS OF THIS MATERIAL SHOULD BE REPAIRED WITHIN SIX MONTHS OF RECEIPT OF THIS REPORT. 5. THE REPAIR PROJECT MUST BE DESIGNED AND CONDUCTED BY EPA QUALIFIED PERSONS IN ACCORDANCE WITH AHERA REGULATIONS. 6. FOR THE REMAINDER OF THIS MATERIAL, NO IMMEDIATE ABATEMENT IS REQUIRED. 7. CONSULT THE O & M MANUAL CONCERNING SAFE PROCEDURES FOR BOTH THE REPAIRED AREAS PRIOR TO REMOVAL AND THE REMAINDER OF THIS MATERIAL. 8. CONTINUE SURVEILLANCE OF THE REMAINDER OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.		
0184 (1978)	034	FLOOR ADHESIVE (BLACK, UNDER 2' X 2' OFF-WHITE, CEMENTITIOUS TILE)	NO	129	THIS IS THE RESIDUAL ADHESIVE FOR MATERIAL #033. THIS MATERIAL IS LOCATED BELOW EXISTING BLUE CARPET.	1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.		

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

TABLE 5.1 - RECOMMENDED MANAGEMENT ACTIONS FOR ACM

BUILDING NUMBER	HOMO. MTRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	FRI-ABLE	MATERIAL LOCATION(S)	COMMENTS	RECOMMENDED MANAGEMENT ACTION(S)	BEGIN DATE	END DATE
0184 (1978)	035	CEMENT WALL PANELS (BROWN CEMENT BOARD)	NO	STAIRWELL 1, STAIRWELL 2, STAIRWELL 3, STAIRWELL B1, STAIRWELL B2	THIS MATERIAL IS MOUNTED ON THE WALLS NEAR THE STAIR RAILINGS.	1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.		
0184 (1978)	036	FIRE DOOR LINING (WHITE, METAL ENCASED)	NO	OLD BOILER ROOM		1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.		
0184 (1978)	048	SHEET GASKET (WHITE)	NO	OLD BOILER ROOM	ALL OF THIS MATERIAL IS DAMAGED AND NEEDS TO BE REMOVED. THIS MATERIAL IS LOCATED ON THE 2' X 6' SELF-STANDING BOILER PLATES.	1. THIS MATERIAL SHOULD BE REMOVED WITHIN ONE YEAR OF RECEIPT OF THIS REPORT. 2. THE REMOVAL PROJECT MUST BE DESIGNED AND CONDUCTED BY EPA QUALIFIED PERSONS IN ACCORDANCE WITH AHERA REGULATIONS. 3. UNTIL REMOVAL IS COMPLETE, CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL.		
0184 (1978)	049	FLOOR ADHESIVE (BLACK AND YELLOW, UNDER 1' X 1' LIGHT BROWN WITH BLACK STREAKS VINYL FLOOR TILE)	NO	153, 171	THIS IS THE ADHESIVE FOR MATERIAL #026.	1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.		
0184 (1978)	062	FLOOR ADHESIVE (BLACK, UNDER PURPLE ANTI-STATIC CARPET)	NO	163, 167, 168		1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.		

6.0 REMOVED ACM

When removal management actions have been initiated, the AC should provide a written account of any identified ACM that has been removed from the location. This written account must be updated as removal management actions are completed. Table 6.1 lists the ACM determined to be remaining at Mannheim American Middle School at the completion of the 2003 inspection. The AC should update Table 6.1 each time a removal management action is completed by documenting the date the action was completed. A copy of the updated Table 6.1 should be forwarded to the Area Office.

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

TABLE 6.1 - LISTING OF ACM

BUILDING NUMBER	HOMO. MTRL. NO.	MATERIAL TYPE	MATERIAL LOCATION(S)	MATERIAL QUANTITY
0184 (1978)	003	WALL PLASTER	DISHWASH, GYMNASIUM 2, KITCHEN, KITCHEN OFFICE, KITCHEN SERVING LINE, LOBBY 1, STAIRWELL 1, STAIRWELL 2, STAIRWELL 3, 100 CAFETERIA, 111, 118A, 118B, 118C, 123, 125, 126, 127B, 128, 129, 131 SUPPLY, 135, 136A, 136B, 137 OFFICE, 138, 139, 143, 144, 145, 147 NURSE, 150A, 154, 156, 157, 158, 159, 160, 161, 162, 163, 166, 167, 168, 178, 186, 201, 202, 206, 207 LIBRARY, 208, 209, 210, 211, 212B, 214, 215, 216, 217, 218, 219, 223, 224, 225, 301, 302, 306, 307, 308, 309, 310, 311B, 314, 315, 316, 317, 318, 322, 323, 324	29,981 SF
0184 (1978)	009	SHEET GASKET	AIR HANDLING ROOM, OLD BOILER ROOM, 002, 003, 119	105 EA
0184 (1978)	010	VINYL FLOOR TILE	GYMNASIUM STORAGE, 114, 119, 131 SUPPLY, 133, 134, 135, 171, 172, 178, 186	2,786 SF
0184 (1978)	017	SOFFITS	ENTRANCE 1, ENTRANCE 2, ENTRANCE 3, ENTRANCE 4, ENTRANCE 5	176 SF
0184 (1978)	019	CEMENT WALL PANELS	148, 186	80 SF
0184 (1978)	021	ROPE GASKET	OLD BOILER ROOM	5 EA
0184 (1978)	032	FLOOR ADHESIVE	GYMNASIUM STORAGE, 114, 119, 131 SUPPLY, 133, 134, 135, 171, 172, 178, 186	2,922 SF
0184 (1978)	034	FLOOR ADHESIVE	129	720 SF
0184 (1978)	035	CEMENT WALL PANELS	STAIRWELL 1, STAIRWELL 2, STAIRWELL 3, STAIRWELL B1, STAIRWELL B2	503 SF
0184 (1978)	036	FIRE DOOR LINING	OLD BOILER ROOM	2 EA
0184 (1978)	048	SHEET GASKET	OLD BOILER ROOM	7 EA
0184 (1978)	049	FLOOR ADHESIVE	153, 171	216 SF
0184 (1978)	062	FLOOR ADHESIVE	163, 167, 168	2,284 SF

7.0 PLANNED ACTIVITIES

7.1 Plan for Reinspection

Within three years of the effective date of this Asbestos Management Plan and triennially thereafter, all known or assumed ACM remaining in each building still used by DODDS should be reinspected by an accredited inspector. The purpose of the reinspection is to reassess any ACM remaining in each building. The reinspection will be performed in accordance with Title 40 CFR, Section 763.85(b), and a record of the reinspection will be incorporated into the Asbestos Management Plan within 90 days of the reinspection and will contain the following information:

- Date of the reinspection
- Changes in the condition of known or assumed ACM
- Locations where samples were collected
- Assessments or reassessments of friable ACM
- Signature(s) and certification(s) of inspector(s)

7.2 Plan for Operations and Maintenance

The Operations and Maintenance (O&M) Program has been developed for Mannheim American Middle School for implementation by building maintenance and custodial staff. The O&M Program is described in detail in the O&M Manual. A copy of the O&M Manual was attached to this Asbestos Management Plan when it was transmitted to Ms. Jaqueline Yardley. The O&M Program includes:

- Procedures for initial and additional cleaning of areas where friable ACM is located.

- Procedures to protect building occupants during operations and maintenance activities disturbing friable and nonfriable ACM.

- Procedures to follow if friable ACM is dislodged and fibers are released.

7.3 Plan for Periodic Surveillance

Within six months of the effective date of this Asbestos Management Plan, and at least once every six months thereafter, a qualified person will visually inspect all identified known or assumed ACM. Periodic surveillance involves a visual inspection to note changes in condition. A record of the surveillance, including the date and any changes in the condition of materials, will be maintained by the AC and submitted to the Area Office. The periodic surveillance records are located in Section 10, Table 10.3, of this Asbestos Management Plan.

7.4 Recommendations for Initial and Additional Cleaning

The following initial and additional cleaning practices should be instituted:

- Initial cleaning. Unless the building has been cleaned using equivalent methods within the previous six months, all areas of a school building where friable ACM, damaged or significantly damaged thermal system insulation ACM, or friable assumed ACM are present shall be cleaned before the initiation of any management action, other than O&M activities or repair, according to the following procedures:

    - High efficiency particulate air (HEPA)-vacuum and steam-clean all carpets.
    - HEPA-vacuum or wet-clean all other floors and all other horizontal surfaces.
    - Dispose of all debris, filters, mopheads, and cloths in sealed, leakproof containers.

- Additional cleaning. Unless initial cleaning has been accomplished within the previous six months, all areas of a building where friable damaged or significantly damaged ACM, damaged or significantly damaged asbestos-containing thermal system insulation, or friable damaged or significantly damaged assumed ACM are present, shall be cleaned. Cleaning methods used shall be equivalent to initial cleaning practices.

Table 7.1 identifies the areas requiring initial or additional cleaning as described in the O&M Manual.

Mannheim American Middle School

HE 3433

Table 7.1 Area(s) Requiring Initial or Additional Cleaning

BUILDING NUMBER	HOMO. MATERIAL NUMBER	MATERIAL TYPE	MATERIAL LOCATION(S)
0184 (1978)	021	ROPE GASKET	OLD BOILER ROOM

NOTE: Cleaning for areas such as secured attic spaces, pipe tunnels, exterior pipe trenches, etc., is required at access points unless entry into the space is required.

8.0 NOTIFICATION OF EMPLOYEES AND BUILDING OCCUPANTS

Information concerning inspections, reinspections, management actions, and post management action activities (e.g., surveillance activities) must be provided to employees and building occupants (or their legal guardians) on an annual basis. Exhibit 8.1 is a sample notification letter. The AC must maintain a record of all notification efforts that have been undertaken. The notification record is contained in Table 8.1. The AC must update this record after each annual notification. Copies of notification letters and any additional public information issued by the AC will be inserted into Appendix B of this Asbestos Management Plan. The AC will forward copies of the documents to the Area Office.

EXHIBIT 8.1

SAMPLE NOTICE FOR AHERA INSPECTION OR REINSPECTION

(Letterhead)
(Date)

MEMORANDUM FOR PARENTS AND STAFF

SUBJECT: Notification of AHERA inspection (or reinspection)

As required by the Asbestos Hazard Emergency Response Act (AHERA) of 1986, our buildings have been inspected or reinspected for asbestos-containing materials (ACM). The most recent inspection was conducted on **[take date from most recent Asbestos Management Report]** in accordance with Environmental Protection Agency (EPA) regulations and DoDEA policy.

The results of the inspection or reinspection indicate we have the following asbestos materials in our building(s): **[refer to table 6.1 of the Asbestos Management Plan addendum]**

THE FOLLOWING ITALICIZED TEXT IS AN EXAMPLE OF HOW TO PRESENT THE INFORMATION:

- *vinyl floor tiles in the administrative offices, teachers' lounge, and first floor classrooms and hallways of Bldg 2001,*

- *insulation on steam pipes in the boiler room of Bldg 2002,*

- *cement roof panels on the walkway between Bldgs 2001 and 2002.*

The insulation on the steam pipes has been recommended for removal. Project specifications are being prepared and the project is expected to be completed during the summer recess.

The cement roof panels were removed during the exterior renovations over the summer recess this year. The inspectors found the vinyl floor tiles to be in good condition and indicated that there is no reason to remove them at this time.

As required by EPA, a periodic surveillance program is in effect for asbestos materials that remain in place and their condition will be closely monitored.

A copy of the Asbestos Management Plan is kept in our office and is available for your review. If you have any questions or concerns, please do not hesitate to contact me.

John Q. Smith
Principal

Mannheim American Middle School

HE 3433

Table 8.1

Notification Efforts Completed by Asbestos Coordinator

Date	Activity	Notification To	Notification By	Comments

9.0 EVALUATION OF RESOURCE REQUIREMENTS

9.1 O&M Program Supplies

The cleaning and preventive measures specified in this Asbestos Management Plan require the availability of disposable and non-disposable items. Table 9.1 lists the recommended equipment inventory required for use in asbestos management activities. This equipment must be available for use by properly trained maintenance and custodial staff.

Table 9.1
Recommended Inventory for
Asbestos O&M Program Equipment

Item	Quantity	Unit Cost	Total Estimated Cost
"Danger Asbestos" Labeled Bags 75/Roll	1	$52.00/Roll	$52.00
6 mil Polyethylene Sheeting 10' X 100' Roll	1	$29.00/Roll	$29.00
Bridging Encapsulant 5 Gal Container	1	$188.00/Container	$188.00
Duct Tape 10/Box	1	$55.00/Box	$55.00
Garden Sprayer	1	$30.00/Sprayer	$30.00
Half Face Respirators	2	$23.00/Respirator	$46.00
HEPA Filter Vacuum	1	$1,030.00/Vacuum	$1,030.00
P100 Respirator Cartridges 10/Box	1	$42.00/Box	$42.00
Signs and Placards	1	$60.00/Set	$60.00
Tyvek Suits 25/Box	1	$110.00/Box	$110.00

9.2 Resource Requirements for Management Actions

Table 9.2 defines the estimated resources required to carry out the recommended management actions for all homogeneous areas found to contain ACM.

To assist in understanding the information provided in Table 9.2, a description of each column heading is included below.

BUILDING NUMBER - Identifies each building included in the report. If the date of construction was known, this information is presented in parenthesis after the building number.

HOMO. MATRL. NO. (Homogeneous Material Number) - Numerical designation assigned to each homogeneous material (material that is uniform in color and texture, serves the same function, and was installed at the same time) encountered in a building.

MATERIAL TYPE - Brief description of the material, followed by information on distinguishing characteristics which may include function, size, color, shape, etc., if necessary.

MATERIAL LOCATION(S) - Short description detailing the specific location of the homogeneous material area.

ABATEMENT ITEM - Numerical designation assigned to each item required to carry out the management action. Appendix E contains an Abatement Item Listing providing a detailed description of each abatement item.

UNIT COST - Estimated unit cost associated with each abatement item. Appendix E contains an Abatement Item Listing providing an estimated unit cost for each abatement item.

ESTIMATED QUANTITY - Estimated quantity of the abatement item required to perform the task.

ITEM COST - Management action cost obtained by multiplying UNIT COST by ESTIMATED QUANTITY.

ESTIMATED MATERIAL COST - Estimated total cost for each asbestos material obtained by adding all ITEM COSTS for each material.

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

TABLE 9.2 - ESTIMATED RESOURCES FOR RECOMMENDED MANAGEMENT ACTIONS

BUILDING NUMBER	HOMO. MATERIAL NUMBER	MATERIAL TYPE	MATERIAL LOCATION(S)	ABATEMENT ITEM	UNIT COST	ESTIMATED QUANTITY		ITEM COST	ESTIMATED MATERIAL COST
0184 (1978)	003	WALL PLASTER	DISHWASH, GYMNASIUM 2, KITCHEN, KITCHEN OFFICE, KITCHEN SERVING LINE, LOBBY 1, STAIRWELL 1, STAIRWELL 2, STAIRWELL 3, 100 CAFETERIA, 111, 118A, 118B, 118C, 123, 125, 126, 127B, 128, 129, 131 SUPPLY, 135, 136A, 136B, 137 OFFICE, 138, 139, 143, 144, 145, 147 NURSE, 150A, 154, 156, 157, 158, 159, 160, 161, 162, 163, 166, 167, 168, 178, 186, 201, 202, 206, 207 LIBRARY, 208, 209, 210, 211, 212B, 214, 215, 216, 217, 218, 219, 223, 224, 225, 301, 302, 306, 307, 308, 309, 310, 311B, 314, 315, 316, 317, 318, 322, 323, 324	200	$67.50	18.00	HRS	$1,215.00	$1,215.00
0184 (1978)	009	SHEET GASKET	AIR HANDLING ROOM, OLD BOILER ROOM, 002, 003, 119	34	$29.38	1.00	EA	$29.38	
				200	$67.50	3.00	HRS	$202.50	$231.88
0184 (1978)	010	VINYL FLOOR TILE	GYMNASIUM STORAGE, 114, 119, 131 SUPPLY, 133, 134, 135, 171, 172, 178, 186	1	$26.50	320.00	SF	$8,480.00	
				100	$129.15	1.00	HRS	$129.15	
				200	$67.50	15.00	HRS	$1,012.50	$9,621.65
0184 (1978)	017	SOFFITS	ENTRANCE 1, ENTRANCE 2, ENTRANCE 3, ENTRANCE 4, ENTRANCE 5	200	$67.50	1.50	HRS	$101.25	$101.25
0184 (1978)	019	CEMENT WALL PANELS	148, 186	200	$67.50	0.60	HRS	$40.50	$40.50
0184 (1978)	021	ROPE GASKET	OLD BOILER ROOM	35	$35.14	5.00	EA	$175.70	$175.70
0184 (1978)	032	FLOOR ADHESIVE	GYMNASIUM STORAGE, 114, 119, 131 SUPPLY, 133, 134, 135, 171, 172, 178, 186	3	$26.50	320.00	SF	$8,480.00	
				100	$129.15	1.00	HRS	$129.15	
				200	$67.50	18.00	HRS	$1,215.00	$9,824.15

MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

TABLE 9.2 - ESTIMATED RESOURCES FOR RECOMMENDED MANAGEMENT ACTIONS

BUILDING NUMBER	HOMO. MATERIAL NUMBER	MATERIAL TYPE	MATERIAL LOCATION(S)	ABATEMENT ITEM	UNIT COST	ESTIMATED QUANTITY		ITEM COST	ESTIMATED MATERIAL COST
0184 (1978)	034	FLOOR ADHESIVE	129	200	$67.50	9.00	HRS	$607.50	$607.50
0184 (1978)	035	CEMENT WALL PANELS	STAIRWELL 1, STAIRWELL 2, STAIRWELL 3, STAIRWELL B1, STAIRWELL B2	200	$67.50	4.50	HRS	$303.75	$303.75
0184 (1978)	036	FIRE DOOR LINING	OLD BOILER ROOM	200	$67.50	1.50	HRS	$101.25	$101.25
0184 (1978)	048	SHEET GASKET	OLD BOILER ROOM	34	$29.38	7.00	EA	$205.66	$205.66
0184 (1978)	049	FLOOR ADHESIVE	153, 171	200	$67.50	3.00	HRS	$202.50	$202.50
0184 (1978)	062	FLOOR ADHESIVE	163, 167, 168	200	$67.50	15.00	HRS	$1,012.50	$1,012.50
								TOTAL COST	**$23,643.00**

10.0 MANDATORY RECORDS

The EPA rule, "Asbestos-Containing Materials in Schools", Title 40 CFR, Part 763, requires that certain records be maintained in the administrative offices of the school and the LEA as part of the Asbestos Management Plan. For each area where ACM has been removed, the LEA will retain the required records for 3 years beyond the next reinspection. When records are updated, the AC will forward a copy of the updated record to the Area Office.

10.1 Preventive Measures and Management Actions

The AC will maintain the required records by entering the appropriate information on Table 5.1 in Section 5.0 of this Asbestos Management Plan. Table 5.1 will be updated as the preventive measures management actions are completed.

Records of any air monitoring conducted in conjunction with the asbestos management program are documented on Table 10.1. Appendix C of this Asbestos Management Plan is reserved for copies of the laboratory analysis reports of any air samples collected.

10.2 Training

A complete record of employee training is to be maintained on Table 10.2. As training is completed, the AC will record the appropriate information on Table 10.2.

10.3 Periodic Surveillance

Each time periodic surveillance as defined under Title 40 CFR, Section 763.92(b), is performed, the AC will record in the appropriate spaces on Table 10.3 the name of the individual(s) conducting the surveillance activity, the location and date of the surveillance activity, and changes in the condition of the materials.

10.4 Cleaning

Each time cleaning activities as described under Title 40 CFR, Section 763.91(c), are performed, the AC will record in the appropriate spaces on Table 10.4, the material and cleaning methods used, the date of the cleaning, the locations cleaned, and the name of the individual(s) performing the cleaning.

10.5 Operations and Maintenance

Each time operations and maintenance activities involving ACM as defined under Title 40 CFR, Section 763.91(d), are performed in this school, the AC will record on Table 10.5 the name of the individual(s) performing the activity, the start and completion dates of the activity, the location where the activity occurred, a description of the activity, including preventive measures used, and, if ACM is removed, the name and location of the storage or disposal site of the ACM.

10.6 Major Asbestos Activity

Each time a major asbestos activity as defined under Title CFR, Section 763.91(e), is performed, the AC will record on Table 10.6 the name and signature, the State of accreditation, and, if applicable, the accreditation number of the individual(s) performing the activity, the start and completion dates, the location where the activity occurred, a description of the activity including preventive measures used, and, if ACM is removed, the name and location of the storage or disposal site of the ACM.

10.7 Fiber Release Episodes

For each asbestos fiber release episode as defined under Title 40 CFR, Section 763.91(f), the AC will record on Table 10.7 the date and location of the episode, the severity of release, the preventive measures or management actions taken, the name of the individual(s) performing the work, and the name and location of the storage or disposal site of any ACM removed.

TABLE 10.1 AIR SAMPLING RECORD

Name/Signature of Sample Collector	Sample Location	Name/Address of Laboratory	Date of Analysis	Method of Analysis	Result	Analyst Name & Title

TABLE 10.2 TRAINING RECORD

SCHOOL TO INSERT TRAINING RECORDS

TABLE 10.3 PERIODIC SURVEILLANCE RECORD

Material	Surveillance Date	Location	Previous Condition	Current Condition	Name of Inspector

TABLE 10.4 CLEANING ACTIVITIES

Material	Cleaning Date	Location Cleaned	Individual Performing Cleaning

TABLE 10.5 OPERATIONS AND MAINTENANCE ACTIVITY RECORD

Name of Person Conducting the Activity	Start Date	Completion Date	Activity Location	Activity Description	Storage or Disposal Site for ACM

TABLE 10.6 MAJOR ASBESTOS ACTIVITIES

Name and Signature	State of Accreditation	Start Date	Completion Date	Activity Location	Activity Description	Storage or Disposal Site for ACM

TABLE 10.7 FIBER RELEASE EPISODES RECORD

Location	Date	Major or Minor Release	Management Action or Preventive Measures	Individuals Performing Work	Storage or Disposal Site for ACM

APPENDIX A

MANAGEMENT PLANNER CERTIFICATE

Professional Training Associates, Inc.

ASBESTOS MANAGEMENT PLANNER

Initial Training Course

Jeffrey C. Kolich

has successfully completed the Asbestos Management Planner Initial Training Course and passed the course examination for purposes of accreditation under section 206 of Title II of the Toxic Substance Control Act (TSCA). Conducted by Professional Training Associates, Inc., 46 South Linden Street, Suite C, Duquesne, PA 15110, (412) 460-0266.

KOLICHJ
MPI061903DUQUESN

Location: **Duquesne, PA**

Course Date: **June 19 - June 20, 2003**

Course Director: _____
John J. Curcio

Examination: **June 20, 2003**

Expiration: **June 20, 2004**

Certificate Number: **PTA 03 - 14 - 12067**

APPENDIX B

COPIES OF ASBESTOS-RELATED ACTIVITY NOTIFICATION DOCUMENTS

APPENDIX C

AIR SAMPLES - LABORATORY ANALYSIS REPORTS

APPENDIX D

GLOSSARY

GLOSSARY

Abatement	Procedures which are implemented to remove asbestos materials from a damaged area, functional space, or a homogeneous area.
Asbestos	A group of naturally occurring minerals that can be separated into fibers which are flexible, heat resistant and chemically inert. The following asbestos minerals are used commercially: Actinolite, Amosite, Anthophyllite, Chrysotile, Crocidolite, and Tremolite.
Asbestos-Containing Material (ACM)	Per EPA regulations, any material that contains more than 1.0 percent asbestos by weight.
Asbestos Coordinator (AC)	The person at the local level who serves as a focal point or liaison for asbestos activities. Per DODEA Asbestos Management Policy, this person is the Principal of a school, or District Superintendent at a DSO.
Asbestos Hazard Emergency Response Act (AHERA)	An Act passed by Congress and signed by the President in October 1986 which requires the EPA to promulgate regulations requiring inspections for ACM, development of asbestos management plans, and management actions with respect to friable ACM in U.S. schools including DODDS.
Asbestos Management Plan	Required by AHERA, a plan detailing the steps taken to control potential asbestos hazards in school buildings.

Asbestos Management Program	A program instituted by DODEA to comply with AHERA and to administer long-term control and surveillance of all ACM in school buildings.
Containment System	A separation or barrier system that prevents the movement of asbestos-contaminated air from the abatement work area into uncontaminated areas.
Encapsulation	The treatment of ACM with a penetrating or surface sealant in order to minimize the potential for asbestos fiber release.
Enclosure	The system of containment that creates an airtight seal or barrier between the ACM and the adjacent space.
EPA	Environmental Protection Agency
Friable	Any material which, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure.
Homogeneous Sampling Area	An area of surfacing material, thermal system insulation material, or miscellaneous material that is uniform in color or texture, serves the same function, and was installed at the same time.
Removal	The removal of ACM from any surface or component in all or a portion of a building.
Operations and Maintenance (O&M) Program	A program specifically designed to clean up asbestos fibers previously released, to prevent the release of fibers by minimizing ACM disturbance or damage, and to monitor the condition of the ACM.

Surveillance

Periodic reinspection of friable and non-friable ACM on a frequency consistent with the requirements of the AHERA regulations.

APPENDIX E

ABATEMENT ITEM LISTING

ABBREVIATIONS USED ON THE ABATEMENT ITEM LISTING:

EA -- EACH

LF -- LINEAR FOOT

LS -- LUMP SUM

MH -- MAN HOUR

SF -- SQUARE FOOT

H -- HOUR

PR -- PAIR

ABATEMENT ITEM LISTING

Item Number	Item Description	Unit	Unit Price
01	Removal and disposal of asbestos-containing vinyl floor tile. Removal by full containment method.	SF	$26.50
02	Removal and disposal of asbestos-containing vinyl floor sheeting. Removal by full containment method.	SF	$27.22
03	Removal and disposal of asbestos-containing floor adhesive. Removal by full containment method.	SF	$26.50
04	Removal and disposal of asbestos-containing cement flooring. Removal by full containment method.	SF	$33.70
05	Removal and disposal of asbestos-containing subfloor material. Removal by full containment method.	SF	$32.98
06	Removal and disposal of asbestos-containing cove base adhesive. Removal by full containment method.	SF	$26.50
07	Removal and disposal of asbestos-containing cove base. Removal by full containment method.	SF	$26.50
10	Removal and disposal of asbestos-containing wall plaster. Removal by full containment method.	SF	$30.10
11	Removal and disposal of asbestos-containing wallboard. Removal by full containment method.	SF	$27.94
12	Removal and disposal of asbestos-containing cement wall panels. Removal by full containment method.	SF	$28.66
13	Removal and disposal of asbestos-containing acoustical wall panels. Removal by full containment method.	SF	$29.38
14	Removal and disposal of asbestos-containing fabric wall covering. Removal by full containment method.	SF	$30.10
15	Removal and disposal of asbestos-containing paint. Removal by full containment method.	SF	$30.10
16	Removal and disposal of asbestos-containing joint compound. Removal by full containment method.	SF	$29.38

ABATEMENT ITEM LISTING

Item Number	Item Description	Unit	Unit Price
17	Removal and disposal of asbestos-containing caulk. Removal by full containment method.	LF	$31.90
18	Removal and disposal of asbestos-containing wall insulation. Removal by full containment method.	SF	$27.58
19	Removal and disposal of asbestos-containing fireproofing. Removal by full containment method.	SF	$31.18
20	Removal and disposal of asbestos-containing ceiling plaster. Removal by full containment method.	SF	$30.82
21	Removal and disposal of asbestos-containing ceiling board. Removal by full containment method.	SF	$30.82
22	Removal and disposal of asbestos-containing cement ceiling panels. Removal by full containment method.	SF	$30.10
23	Removal and disposal of asbestos-containing ceiling tiles. Removal by full containment method.	SF	$29.38
24	Removal and disposal of asbestos-containing ceiling insulation. Removal by full containment method.	SF	$27.22
25	Removal and disposal of asbestos-containing ceiling rough finish. Removal by full containment method.	SF	$31.54
26	Removal and disposal of asbestos-containing wall and ceiling plaster. Removal by full containment method.	SF	$30.82
27	Removal and disposal of asbestos-containing cement wall and ceiling panels. Removal by full containment method.	SF	$28.66
28	Removal and disposal of asbestos-containing wall and ceiling board. Removal by full containment method.	SF	$29.02
29	Removal and disposal of asbestos-containing cement wall and ceiling tile. Removal by full containment method.	SF	$30.10
30	Removal and disposal of asbestos-containing thermal pipe insulation. Removal by full containment method.	LF	$36.58

ABATEMENT ITEM LISTING

Item Number	Item Description	Unit	Unit Price
31	Removal and disposal of asbestos-containing thermal fitting insulation. Removal by full containment method.	EA	$50.98
32	Removal and disposal of asbestos-containing thermal tape. Removal by full containment method.	LF	$30.82
33	Removal and disposal of asbestos-containing cement pipe. Removal by full containment method.	LF	$33.70
34	Removal and disposal of asbestos-containing sheet gasket. Removal by full containment method.	SF	$29.38
35	Removal and disposal of asbestos-containing rope gasket. Removal by full containment method.	SF	$35.14
36	Removal and disposal of asbestos-containing flex connector. Removal by full containment method.	EA	$50.98
37	Removal and disposal of asbestos-containing duct insulation. Removal by full containment method.	SF	$27.94
38	Removal and disposal of asbestos-containing cement duct. Removal by full containment method.	LF	$31.54
39	Removal and disposal of asbestos-containing fire dampers. Removal method is to remove the entire fire damper intact.	EA	$35.86
40	Removal and disposal of asbestos-containing internal boiler insulation. Removal by full containment method.	SF	$36.58
41	Removal and disposal of asbestos-containing external boiler insulation. Removal by full containment method.	SF	$29.38
42	Removal and disposal of asbestos-containing tank insulation. Removal by full containment method.	SF	$27.94
43	Removal and disposal of asbestos-containing breeching/stack insulation. Removal by full containment method.	SF	$29.38

ABATEMENT ITEM LISTING

Item Number	Item Description	Unit	Unit Price
44	Removal and disposal of asbestos-containing thermal pipe and fitting insulation. Removal by full containment method.	LF	$30.82
45	Removal and disposal of asbestos-containing mechanical equipment insulation. Removal by full containment method.	SF	$29.38
46	Removal and disposal of asbestos-containing electrical wire insulation. Removal by full containment method.	LF	$27.94
47	Removal and disposal of asbestos-containing lamp reflectors. Removal method is to remove the lamp intact.	EA	$25.78
50	Removal and disposal of asbestos-containing dust/debris. Removal by full containment method.	SF	$33.70
51	Removal and disposal of asbestos-containing kiln insulation. Removal by full containment method.	SF	$35.14
52	Removal and disposal of asbestos-containing fire door lining. Removal method is to remove the fire door intact.	EA	$36.58
53	Removal and disposal of asbestos-containing stage curtains. Removal by full containment method.	SF	$27.22
54	Removal and disposal of asbestos-containing stall partitions. Removal by full containment method.	SF	$27.94
55	Removal and disposal of asbestos-containing splash panels. Removal by full containment method.	SF	$27.58
56	Removal and disposal of asbestos-containing windowsills. Removal by full containment method.	SF	$32.26
57	Removal and disposal of asbestos-containing laboratory fume hoods. Removal by full containment method.	SF	$29.38
58	Removal and disposal of asbestos-containing gloves.	PR	$22.18
59	Removal and disposal of asbestos-containing fire blankets.	EA	$26.50

ABATEMENT ITEM LISTING

Item Number	Item Description	Unit	Unit Price
60	Removal and disposal of asbestos-containing heat shields. Removal by full containment method.	SF	$26.86
61	Removal and disposal of asbestos-containing napkin incinerator lining. Removal method is to remove the napkin incinerator intact.	EA	$35.14
62	Removal and disposal of asbestos-containing chalkboards. Removal by partial containment method.	SF	$27.22
63	Removal and disposal of asbestos-containing tabletops. Removal by partial containment method.	SF	$27.22
64	Removal and disposal of asbestos-containing sink coating.	EA	$30.10
65	Removal and disposal of asbestos-containing burner pad.	EA	$22.18
66	Removal and disposal of asbestos-containing elevator brake shoes.	EA	$35.14
67	Removal and disposal of asbestos-containing lab oven insulation. Removal by full containment method.	SF	$32.98
68	Removal and disposal of asbestos-containing safe, cabinet, desk insulation. Removal by full containment method.	SF	$500.00
70	Removal and disposal of asbestos-containing exterior soils. Removal by modified containment method.	SF	$30.82
71	Removal and disposal of asbestos-containing exterior siding. Removal by modified containment method.	SF	$29.38
72	Removal and disposal of asbestos-containing exterior siding shingles. Removal by modified containment method.	SF	$29.02
73	Removal and disposal of asbestos-containing soffits. Removal by modified containment method.	SF	$28.66
74	Removal and disposal of asbestos-containing facia. Removal by modified containment method.	SF	$29.38

ABATEMENT ITEM LISTING

Item Number	Item Description	Unit	Unit Price
75	Removal and disposal of asbestos-containing exterior plasters. Removal by modified containment method.	SF	$35.14
76	Removal and disposal of asbestos-containing walkway ceiling. Removal by modified containment method.	SF	$28.66
77	Removal and disposal of asbestos-containing cement roofing panels. Removal by modified containment method.	SF	$29.38
78	Removal and disposal of asbestos-containing asphaltic roofing materials. Removal by modified containment method.	SF	$30.10
79	Removal and disposal of asbestos-containing exterior caulks. Removal by modified containment method.	SF	$32.26
80	Removal and disposal of asbestos-containing louvers. Removal by modified containment method.	SF	$29.38
81	Removal and disposal of asbestos-containing cement corrugated roof. Removal by modified containment method.	SF	$28.66
82	Removal and disposal of asbestos-containing asphaltic vapor barrier. Removal by modified containment method.	SF	$29.02
83	Removal and disposal of asbestos-containing chimney lining. Removal by full containment method.	SF	$36.58
84	Removal and disposal of asbestos-containing coal composition ceiling. Removal by full containment method.	SF	$31.18
85	Removal and disposal of asbestos-containing ceiling tile adhesive. Removal by full containment method.	SF	$29.38
86	Removal and disposal of asbestos-containing carpet. Removal by full containment method.	SF	$26.50
87	Removal and disposal of asbestos-containing cement wall. Removal by full containment method.	SF	$28.66

ABATEMENT ITEM LISTING

Item Number	Item Description	Unit	Unit Price
88	Removal and disposal of asbestos-containing wall tile adhesive. Removal by full containment method.	SF	$29.38
89	Removal and disposal of asbestos-containing wall tile. Removal by full containment method.	SF	$29.38
90	Removal and disposal of asbestos-containing wall and ceiling tile. Removal by full containment method.	SF	$29.38
91	Removal and disposal of asbestos-containing wall and ceiling tile adhesive. Removal by full containment method.	SF	$29.38
92	Removal and disposal of other asbestos-containing thermal system insulation. Removal by full containment method.	LF	$36.58
93	Removal and disposal of other asbestos-containing surfacing material. Removal by full containment method.	SF	$30.82
94	Removal and disposal of other asbestos-containing miscellaneous material. Removal by full containment method.	SF	$26.50
100	Conduct repair activities for an asbestos-containing material. Repair activities could include small-scale removal, small-scale encapsulation, small-scale enclosure, and/or repair of damaged areas. Hourly rate includes a 2-person, fully equipped crew to conduct repair activities.	HR	$129.15
200	Conduct periodic surveillance of the asbestos-containing material. Periodic surveillance is anticipated to be conducted semiannually for 3 years.	MH	$67.50
201	Institute an operations and maintenance program. Start-up costs include HEPA vacuum, glove bags, plastic, disposal, etc.	LS	$4,050.00
202	Restock an existing operations and maintenance program to replace depleted supplies.	LS	$1,080.00

APPENDIX F

U.S. EPA FINAL RULE:
ASBESTOS-CONTAINING MATERIALS IN SCHOOLS

INSERT INFORMATION FROM ORIGINAL ASBESTOS MANAGEMENT PLAN

DEPARTMENT OF DEFENSE
EDUCATION ACTIVITY
ASBESTOS MANAGEMENT PROGRAM

2003
Operations and Maintenance Manual

for

Mannheim American Middle School
Mannheim-Kaefertal, Germany
HE 3433

Prepared For:

Department of Defense Education Activity
Logistics Division
4040 North Fairfax Drive
Arlington, Virginia 22203-1635

Prepared By:

Baker Environmental, Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

Under Contract With:

U.S. Army Corps of Engineers
Transatlantic Programs Center
Winchester, Virginia

OPERATIONS AND MAINTENANCE MANUAL
FOR
MANNHEIM AMERICAN MIDDLE SCHOOL
HE 3433

TABLE OF CONTENTS

IMPORTANT FOREWORD

The information presented herein, together with historical records for this location, satisfies the reporting requirements of the AHERA legislation and DODEA policy regarding Operations and Maintenance Manuals.

FOR A SUMMARY TABULATION OF WHERE ASBESTOS WAS FOUND, AND WHAT SHOULD BE DONE ABOUT IT, PLEASE REFER TO TABLE 5.1 PRINTED ON BLUE-TINTED PAPER.

Please also note that not all building materials have been tested. Examples of this may be materials which are hidden from view, inaccessible, or where sampling would be destructive. **THEREFORE, THERE IS NO ASSURANCE THAT UNTESTED MATERIALS ARE ASBESTOS-FREE.**

1.0 INTRODUCTION

The Department of Defense Education Activity (DODEA) has developed and implemented an Asbestos Management Program to help ensure the safety of the occupants of Mannheim American Middle School and to comply with U.S. Environmental Protection Agency (EPA) regulations issued in 1987 as required by the Asbestos Hazard Emergency Response Act (AHERA).

Implementation of an Operations and Maintenance (O&M) Program is required whenever materials with the potential to release asbestos fibers are found in the buildings. The primary objective of this O&M Manual is to describe work practices and procedures that will prevent the release of asbestos fibers during routine building maintenance and janitorial activities.

This O&M Manual describes initial and periodic cleaning procedures to be utilized in building areas containing asbestos. In addition, it includes descriptions of maintenance and repair procedures that must be followed by custodial and maintenance personnel who work with asbestos-containing materials (ACM).

The Local Education Agency (LEA) Representative responsible for carrying out the O&M Program, as described in the EPA regulations (Title 40 Code of Federal Regulations [CFR] Part 763), is:

Ms. Liisa M. White
Department of Defense Education Activity
Logistics Division/Facilities Branch
4040 North Fairfax Drive
Arlington, VA 22203-1635
(703) 696-3850 (ext. 1801)
(703) 696-4030 (Fax)

The Asbestos Coordinator (AC) designated to carry out the duties of the LEA at Mannheim American Middle School is:

Ms. Jaqueline Yardley
Mannheim American Middle School
Unit 29937
APO AE 09086

Telephone: 49-621-720050
Telefax: 49-621-7200555

2.0 BACKGROUND: ASBESTOS CHARACTERISTICS AND HEALTH EFFECTS

Asbestos is the common name for a group of naturally occurring fibrous mineral silicates. Because it is noncombustible and has low thermal conductivity, asbestos has been used extensively in the construction industry in a wide variety of applications.

There are six different types of asbestos: chrysotile, which accounts for approximately 90 percent of all commercially used asbestos; amosite and crocidolite, which are also commonly found in commercial and construction products; and tremolite, actinolite, and anthophyllite which are less commonly used. Asbestos was typically used as a component of materials, such as thermal insulation on pipes, boilers, and air handling ducts, and sprayed-on or troweled-on surfacing materials. Asbestos may also be found in miscellaneous materials such as fire-retardant blankets, cloths and textiles, roofing felts, plasters, cementitious tiles, floor tiles, and flooring adhesives. Damaged or deteriorated ACM may release microscopic fibers which can remain suspended in the air and potentially be inhaled into the lungs.

Inhalation of asbestos fibers has been linked to the development of certain respiratory diseases and of cancers of various internal organs including the lungs, esophagus, larynx, oral cavity, stomach, colon, and kidney. The three most common asbestos-related diseases are: asbestosis (a fibrous scarring of the lungs), lung cancer, and mesothelioma (a cancer of the lining of the chest or abdominal cavity). These diseases do not develop immediately after inhalation of asbestos fibers; it may be 20 years or more before symptoms appear. No safe level of asbestos exposure has yet been determined. Smoking, combined with exposure to asbestos, significantly increases the risk of developing respiratory diseases and cancers. Past studies of unprotected asbestos workers in occupational settings have shown that smoking combined with high levels of exposure to asbestos can increase the risk for development of asbestos-related diseases. An increase in risk of up to 50 times the risk level observed for non-smoking asbestos workers has been documented.

3.0 OPERATIONS AND MAINTENANCE PROGRAM ELEMENTS

The following sections describe the basic practices, procedures, and recommendations of the O&M Program for this school or facility. Implementation of these program components is required for compliance with AHERA. Appendix A contains specific maintenance and repair instructions for the types of ACM identified in this school or facility.

3.1 Informing Workers and Building Occupants

Maintenance workers, custodians, and building occupants must be informed annually of asbestos materials in the building(s), scheduled and ongoing asbestos-related activities, inspection results, management action(s), and periodic reinspection(s) and surveillance. Short-term workers, such as telephone workers, utility workers, repairmen, and host-nation contractors who could potentially come into contact with asbestos in this school must be informed by the AC of the locations of all known or assumed ACM prior to working in those areas.

Labels that warn of the presence of asbestos must be posted adjacent to both friable and non-friable asbestos materials located in routine maintenance areas such as boiler rooms, ceiling voids, and crawl spaces.

These labels must be posted for all friable and non-friable ACM including materials which have been encapsulated, enclosed, or repaired. All warning labels must be displayed in easily visible locations and must remain posted until the ACM has been completely removed. Labels shall have a brightly colored background printed with the following warning in large capital letters:

CAUTION: ASBESTOS HAZARD
DO NOT DISTURB WITHOUT PROPER TRAINING
AND EQUIPMENT

Labels written in both English and the host-nation language shall be posted.

3.2 Training Requirements

Prior to implementation of the O&M Program, AHERA requires that building maintenance and custodial staff receive two hours of asbestos awareness training. The maintenance and custodial staff must receive this training whether or not their work activities will involve contact with, or disturbance of, ACM. Also, all new staff must receive this 2-hour awareness training. For staff whose work activities may disturb ACM, 14 additional hours of training are required. New maintenance and custodial staff employees must receive the required training within 60 days of employment. For schools whose principals do not hire, supervise, or otherwise control building custodians or maintenance personnel, ways to implement the training requirements must be jointly explored with the supporting military installation and/or contracting agency. As outlined in the EPA regulations, training is required for the specific subjects listed below.

WORKER TRAINING OUTLINE

2-Hour Awareness Training

- Asbestos uses and types
- Health effects associated with asbestos exposure
- ACM locations in each school building where employees work
- Recognition of ACM damage, deterioration, or delamination
- Name and telephone number of AC, availability and location of Asbestos Management Plan

14-Hour Additional Training

- Proper ACM handling methods
- Respiratory protection and personal protective equipment
- Review of:
  - Methods to determine management action completion
  - Small-scale, short-duration work activities (projects involving up to 3 square or linear feet of ACM)
  - Contractor accreditation
  - Transport and disposal of asbestos waste
- Worker protection
- Respirator fit-test and hands-on training in respiratory protective measures; work practice procedure review

3.3 Respiratory Protection Program

Before any O&M procedures are initiated, a Respiratory Protection Program, as outlined in Occupational Safety and Health Administration (OSHA) Regulation 29 CFR 1910.134 and 1910.1001, must be implemented and documented for all U.S. government employees whose work activities will involve contact with ACM. A written program must specify standard operating procedures for the use and maintenance of the respiratory protection equipment. The program must include respirator selection, fit-testing, and hands-on training of each employee required to wear a respirator. Respirators selected for use must be approved as protective against particulates (P100) by the National Institute for Occupational Safety and Health (NIOSH). A baseline medical examination and annual examinations as outlined in the OSHA regulation must be provided for each worker required to participate in the Respiratory Protection Program.

Respiratory protection must be utilized by all U.S. government employees when performing any project where the potential for exposure to asbestos fibers exist. The type of respiratory and personal protective equipment required by workers must be established for each area where an O&M activity is scheduled. Initial air monitoring samples must be obtained to determine the concentration of airborne asbestos fibers in each work area. Recommendations for respiratory protection must be consistent with the results of the initial air samples.

The foregoing U.S./OSHA-derived requirements may be waived for host-nation contractor personnel employed under host-nation jurisdiction. Host-nation contractor personnel must use respiratory protection in accordance with host-nation requirements.

3.4 Area Restrictions for ACM Related Work

Access to areas containing either friable or non-friable asbestos materials must be restricted before starting any O&M activity that could disturb the asbestos.

Depending on the O&M activity, restriction of an area will typically use the following procedures:

- Scheduling the activity during hours when the area will be unoccupied;
- Posting signs at all entrances into the area;
- Temporarily shutting off or modifying the air handling system;
- Limiting other sources of air movement in the area; and,
- On occasion, may include isolating the area with air-tight barriers.

Only trained personnel who are necessary to perform the maintenance activity are to be allowed into the restricted area.

3.5 Fiber Release Episodes - Procedures and Management

A fiber release episode may result from damage or deterioration of friable ACM. In the event of a fiber release episode, immediate action must be taken to protect the building occupants and workers from exposure to airborne fibers. Access to the affected area must be restricted. Hazard signs must be posted at all entry ways, and the air handling system to that area shut off. The use of appropriate respiratory protection and protective clothing is required by workers when responding to fiber release episodes.

3.5.1 Minor Fiber Release Episodes

A minor fiber release episode is the disturbance of no more than 3 square or linear feet or 0.3 square or 1 linear meter of friable ACM. If a minor fiber release episode should occur, the AC must be notified immediately. Properly trained maintenance personnel must take immediate action to clean up the falling or dislodged material and repair the damaged areas of ACM using the following procedures:

- Completely saturate all dislodged material with water;

- Place all dislodged materials into asbestos waste disposal containers;

- Wet wipe all surfaces which may of had dust/debris deposited on the surface;

- Thoroughly clean all surfaces in the area using a high efficiency particulate air (HEPA) vacuum;

- Dispose of all debris, filters, mopheads, and cloths in sealed, labeled, leak-tight containers; and,

- Repair the damaged area of asbestos material with an appropriate encapsulant or an asbestos free material such as spackle, plaster, cement, or insulation. If the damaged area cannot be repaired, physically isolate and restrict access to the area and initiate actions to remove the damaged ACM.

3.5.2 Major Fiber Release Episodes

A major fiber release episode is the disturbance of more than 3 square or linear feet or 0.3 square or 1 linear meter of friable ACM. If a major fiber release should occur, the AC and the Area Office must be notified immediately. The following actions must be taken:

- Restrict entry into the area and post signs at all entrances to prevent access by unauthorized persons; and,

- Temporarily shut off or modify the air handling system and limit other sources of air movement through the area.

Corrective management actions associated with major fiber release episodes must be designed, supervised, and conducted by appropriately qualified persons.

3.5.3 Decontamination Procedures

After handling any ACM, the proper decontamination of tools and personnel must be taken. Decontamination involves:

- Wet wiping any tools involved in the corrective management action.

- HEPA vacuuming protective clothing including hood and booties to remove accumulated asbestos debris.

- Removing protective clothing by turning the clothing inside-out, rolling into a ball, and disposing as asbestos-contaminated waste.

- Before removing respirator, wet wipe your face and the respirator.

- Thoroughly washing any exposed body part which may have come in contact with the ACM.

3.6 Waste Handling and Disposal

All asbestos-contaminated waste materials are to be handled, transported, and disposed of in a manner that prevents all visible emissions. All protective polyethylene disposable coveralls, respirator filters, vacuum cleaner, and wastewater used in O&M activities must be considered "asbestos wastes". All asbestos should be placed in 0.20 mm polyethylene bags that have pre-printed asbestos warning labels affixed to the bags. The AC should maintain a supply of these bags.

Asbestos-containing and asbestos-contaminated material must be placed into sealable 0.20 mm polyethylene bags while still wet. Do not overfill or place more than 10 kg into it. The bag should then be evacuated with a HEPA vacuum. It should be sealed by twisting the top 15 cm closed and wrapping with a minimum of two (2) layers of duct tape. Twist the top, fold over, and then apply a second wrap of duct tape. Clean the outside of the disposal bag by wet wiping. Finally, place the bag into a second properly labeled 0.20 mm polyethylene bag.

If sharp objects are to be disposed of, these should be placed in a puncture proof container such as a fiber board box and then bagged.

Excess wastewater generated from wetting procedures should be containerized and disposed of through a series of two (2) sock filters. The first filter is 100 micron pore size and filters out large particulates. The second filter is 5 micron pores and filters out smaller particulates. The water can then be disposed of as uncontaminated waste. The used filters must then be disposed of as asbestos-contaminated waste.

In addition, to load, transport, unload, and for final disposal of asbestos-containing and asbestos-contaminated materials, disposal should be in accordance with base procedures and the host-nation regulations and procedures.

3.7 Maintenance and Repair Request Permit System

The presence of ACM in buildings requires the establishment of a standardized and coordinated procedure for reviewing work order requests. This is necessary to: a) prevent unauthorized or untrained individuals from performing work that could potentially release asbestos fibers into the building environment, b) ensure that asbestos-related work activities, other than small-scale, short-duration projects (projects involving more than the amount of ACM specified in Appendix A of this manual), are designed and conducted by qualified persons. A program should be instituted in which all work requests, including those for renovations, repairs, etc., are first forwarded to the AC for approval.

The AC should review all work order requests to determine if the requested project activities could disturb ACM in the proposed work area. Absolutely no work activities should be permitted prior to this review process. For areas where intended work could cause asbestos fiber release, specific work procedures and equipment should be specified on the work permit.

3.8 Recordkeeping

The EPA Regulations require that O&M plans and records be maintained in both a central location at the facility's administrative office and at the Area Office. These records should be kept on file with the Asbestos Management Plan or entered into appropriate sections of the Asbestos Management Plan and include the following:

- For areas where all ACM has been removed, records pertaining to those areas must be kept for a period of at least 3 years following the next reinspection date.

- For material management actions:
  - Name/signature of person(s) who collected air samples for work completion verification
  - Air sample location and date
  - Name/address of laboratory performing the air sample analysis
  - Date/method/results of analysis
  - Name/signature of person(s) performing analysis
  - Laboratory certification verification

- For cleaning activities conducted in areas of ACM:
  - Date/name of person(s) conducting the cleaning
  - Location cleaned
  - Methods used

- For individuals requiring training as outlined in Section 3.2:
  - Name and job title
  - Date and location of training
  - Number of training hours completed
  - Date of last medical surveillance examination, where applicable

- For other activities under the scope of the O&M Program:
  - Name of persons performing the activity
  - Initiation/completion date of the specific activity
  - Location/description of the activity, including preventive measures
  - Name and location of storage or disposal site if ACM is removed during the activity

- For each fiber release episode:
  - Date/location of the episode
  - Repair method
  - Preventive measures or management action taken
  - Name/location of storage/disposal site if ACM is removed during the activity

3.9 Periodic Surveillance

All ACM identified in the building(s) shall be visually inspected by a designated person at least once every six months. The purpose of the surveillance is to determine if changes in the condition of the ACM have occurred and caused the ACM to become damaged or friable.

The AC will maintain a record of the surveillance and any observed changes of the material in the facility's Asbestos Management Plan.

4.0 EQUIPMENT REQUIREMENTS

The following equipment and materials are required, as applicable, for implementing the recommended O&M Program:

RECOMMENDED INVENTORY FOR ASBESTOS O&M PROGRAM EQUIPMENT

Item	Quantity
"Danger Asbestos" Labeled Bags 75/Roll	1
6 mil Polyethylene Sheeting 10' X 100' Roll	1
Bridging Encapsulant 5 Gal Container	1
Duct Tape 10/Box	1
Garden Sprayer	1
Half Face Respirators	2
HEPA Filter Vacuum	1
P100 Respirator Cartridges 10/Box	1
Signs and Placards	1
Tyvek Suits 25/Box	1

5.0 RECOMMENDED MANAGEMENT ACTIONS FOR ASBESTOS MATERIALS

Table 5.1 presents detailed recommended management actions for all ACM present during the 2003 AHERA Inspection (2003 inspection). The information on Table 5.1 is grouped by building for each building included in the 2003 inspection. Table 5.1 lists asbestos materials, identifies their location(s), friability, recommends material management action(s), lists material management procedures specific for each material, and notes if cleaning of the functional spaces where the material is located is required.

The recommended management action(s) provides detailed instructions for the management of the asbestos materials identified by the 2003 inspection. The Material Management Procedures, found in Appendix A, provide material-specific procedures for surveillance, labeling, and maintenance and repair of asbestos materials identified at Mannheim American Middle School. Appendix B provides procedures for initial and additional cleaning of functional spaces where asbestos materials have been identified.

MANNHEIM AMERICAN MIDDLE SCHOOL

HE 3433

TABLE 5.1 - RECOMMENDED MANAGEMENT ACTIONS FOR ACM

BUILDING NUMBER	HOMO. MTRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	FRI-ABLE	MATERIAL LOCATION(S)	COMMENTS	RECOMMENDED MANAGEMENT ACTION(S)	MATERIAL MANAGEMENT PROCEDURE	CLEANING REQUIRED
0184 (1978)	003	WALL PLASTER (1/16" THICK, WHITE SKIM COAT ON CONCRETE)	NO	DISHWASH, GYMNASIUM 2, KITCHEN, KITCHEN OFFICE, KITCHEN SERVING LINE, LOBBY 1, STAIRWELL 1, STAIRWELL 2, STAIRWELL 3, 100 CAFETERIA, 111, 118A, 118B, 118C, 123, 125, 126, 127B, 128, 129, 131 SUPPLY, 135, 136A, 136B, 137 OFFICE, 138, 139, 143, 144, 145, 147 NURSE, 150A, 154, 156, 157, 158, 159, 160, 161, 162, 163, 166, 167, 168, 178, 186, 201, 202, 206, 207 LIBRARY, 208, 209, 210, 211, 212B, 214, 215, 216, 217, 218, 219, 223, 224, 225, 301, 302, 306, 307, 308, 309, 310, 311B, 314, 315, 316, 317, 318, 322, 323, 324	DUE TO RENOVATION DURING THE 2003 INSPECTION, THE FOLLOWING ROOMS WERE INACCESSIBLE FOR INSPECTION: DISHWASH, KITCHEN, KITCHEN OFFICE, KITCHEN SERVING LINE, 118A, 118B, AND 118C.	1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.	SURFACING MATERIAL AND WALL, CEILING OR MISCELLANEOUS TILES	NO
0184 (1978)	009	SHEET GASKET (2"- 4" DIAMETER, RED, ON PIPE FLANGE CONNECTIONS)	NO	AIR HANDLING ROOM, OLD BOILER ROOM, 002, 003, 119	ONE SHEET GASKET IN THE OLD BOILER ROOM IS DAMAGED AND NEEDS TO BE REMOVED.	1. PORTIONS OF THIS MATERIAL SHOULD BE REMOVED WITHIN ONE YEAR OF RECEIPT OF THIS REPORT. 2. THIS MATERIAL COULD BE REMOVED BY QUALIFIED MAINTENANCE PERSONNEL WHO HAVE RECEIVED TRAINING IN SMALL SCALE, SHORT DURATION ABATEMENT PROJECTS. 3. FOR THE REMAINDER OF THIS MATERIAL, NO IMMEDIATE ABATEMENT IS REQUIRED. 4. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THE REMAINDER OF THIS MATERIAL. 5. CONTINUE SURVEILLANCE OF THE REMAINDER OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.	GASKET MATERIAL AND FLEX CONNECTORS	NO

TABLE 5.1 - RECOMMENDED MANAGEMENT ACTIONS FOR ACM

BUILDING NUMBER	HOMO. MTRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	FRI-ABLE	MATERIAL LOCATION(S)	COMMENTS	RECOMMENDED MANAGEMENT ACTION(S)	MATERIAL MANAGEMENT PROCEDURE	CLEANING REQUIRED
0184 (1978)	010	VINYL FLOOR TILE (1' X 1' WHITE)	NO	GYMNASIUM STORAGE, 114, 119, 131 SUPPLY, 133, 134, 135, 171, 172, 178, 186	THE ADHESIVE FOR THIS MATERIAL IS MATERIAL #032. THIS MATERIAL IS LOCATED BELOW THE EXISTING CARPET IN SOME LISTED LOCATIONS. IN ROOM 119, 320 SF ARE DAMAGED AND NEED TO BE REMOVED. IN ROOM 114, 10 SF ARE DAMAGED AND NEED TO BE REPAIRED.	1. PORTIONS OF THIS MATERIAL SHOULD BE REMOVED WITHIN SIX MONTHS OF RECEIPT OF THIS REPORT. 2. THE REMOVAL PROJECT MUST BE DESIGNED AND CONDUCTED BY EPA QUALIFIED PERSONS IN ACCORDANCE WITH AHERA REGULATIONS. 3. UNTIL REMOVAL IS COMPLETE, CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THESE PORTIONS OF THE MATERIAL. 4. PORTIONS OF THIS MATERIAL SHOULD BE REPAIRED WITHIN SIX MONTHS OF RECEIPT OF THIS REPORT. 5. THE REPAIR PROJECT MUST BE DESIGNED AND CONDUCTED BY EPA QUALIFIED PERSONS IN ACCORDANCE WITH AHERA REGULATIONS. 6. FOR THE REMAINDER OF THIS MATERIAL, NO IMMEDIATE ABATEMENT IS REQUIRED. 7. CONSULT THE O & M MANUAL CONCERNING SAFE PROCEDURES FOR BOTH THE REPAIRED AREAS PRIOR TO REMOVAL AND THE REMAINDER OF THIS MATERIAL. 8. CONTINUE SURVEILLANCE OF THE REMAINDER OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.	VINYL FLOOR TILE OR SHEETING	NO
0184 (1978)	017	SOFFITS (2' X 4' WHITE SURFACE, CEMENTITIOUS)	NO	ENTRANCE 1, ENTRANCE 2, ENTRANCE 3, ENTRANCE 4, ENTRANCE 5		1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.	EXTERIOR WEATHERPROOFING MATERIALS	NO
0184 (1978)	019	CEMENT WALL PANELS (GRAY, PIPE CHASE COVER)	NO	148, 186		1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.	ASBESTOS CEMENT ITEMS	NO

MANNHEIM AMERICAN MIDDLE SCHOOL

HE 3433

TABLE 5.1 - RECOMMENDED MANAGEMENT ACTIONS FOR ACM

BUILDING NUMBER	HOMO. MTRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	FRI-ABLE	MATERIAL LOCATION(S)	COMMENTS	RECOMMENDED MANAGEMENT ACTION(S)	MATERIAL MANAGEMENT PROCEDURE	CLEANING REQUIRED
0184 (1978)	021	ROPE GASKET (WHITE)	YES	OLD BOILER ROOM	ALL OF THIS MATERIAL IS DAMAGED AND NEEDS TO BE REMOVED. THIS MATERIAL IS LOCATED ON THE 2' X 6' SELF-STANDING BOILER PLATES.	1. THIS MATERIAL SHOULD BE REMOVED WITHIN ONE YEAR OF RECEIPT OF THIS REPORT. 2. THE REMOVAL PROJECT MUST BE DESIGNED AND CONDUCTED BY EPA QUALIFIED PERSONS IN ACCORDANCE WITH AHERA REGULATIONS. 3. UNTIL REMOVAL IS COMPLETE, CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL.	GASKET MATERIAL AND FLEX CONNECTORS	YES
0184 (1978)	032	FLOOR ADHESIVE (BLACK, UNDER 1' X 1' WHITE AND 1' X 1' BROWN VINYL FLOOR TILES)	NO	GYMNASIUM STORAGE, 114, 119, 131 SUPPLY, 133, 134, 135, 171, 172, 178, 186	THIS IS THE ADHESIVE FOR MATERIALS #010 AND #023. IN ROOM 119, 320 SF ARE DAMAGED AND NEED TO BE REMOVED. IN ROOM 114, 10 SF ARE DAMAGED AND NEED TO BE REPAIRED.	1. PORTIONS OF THIS MATERIAL SHOULD BE REMOVED WITHIN SIX MONTHS OF RECEIPT OF THIS REPORT. 2. THE REMOVAL PROJECT MUST BE DESIGNED AND CONDUCTED BY EPA QUALIFIED PERSONS IN ACCORDANCE WITH AHERA REGULATIONS. 3. UNTIL REMOVAL IS COMPLETE, CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THESE PORTIONS OF THE MATERIAL. 4. PORTIONS OF THIS MATERIAL SHOULD BE REPAIRED WITHIN SIX MONTHS OF RECEIPT OF THIS REPORT. 5. THE REPAIR PROJECT MUST BE DESIGNED AND CONDUCTED BY EPA QUALIFIED PERSONS IN ACCORDANCE WITH AHERA REGULATIONS. 6. FOR THE REMAINDER OF THIS MATERIAL, NO IMMEDIATE ABATEMENT IS REQUIRED. 7. CONSULT THE O & M MANUAL CONCERNING SAFE PROCEDURES FOR BOTH THE REPAIRED AREAS PRIOR TO REMOVAL AND THE REMAINDER OF THIS MATERIAL. 8. CONTINUE SURVEILLANCE OF THE REMAINDER OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.	FLOOR ADHESIVE (MASTIC)	NO

MANNHEIM AMERICAN MIDDLE SCHOOL

HE 3433

TABLE 5.1 - RECOMMENDED MANAGEMENT ACTIONS FOR ACM

BUILDING NUMBER	HOMO. MTRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	FRI-ABLE	MATERIAL LOCATION(S)	COMMENTS	RECOMMENDED MANAGEMENT ACTION(S)	MATERIAL MANAGEMENT PROCEDURE	CLEANING REQUIRED
0184 (1978)	034	FLOOR ADHESIVE (BLACK, UNDER 2' X 2' OFF-WHITE, CEMENTITIOUS TILE)	NO	129	THIS IS THE RESIDUAL ADHESIVE FOR MATERIAL #033. THIS MATERIAL IS LOCATED BELOW EXISTING BLUE CARPET.	1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.	FLOOR ADHESIVE (MASTIC)	NO
0184 (1978)	035	CEMENT WALL PANELS (BROWN CEMENT BOARD)	NO	STAIRWELL 1, STAIRWELL 2, STAIRWELL 3, STAIRWELL B1, STAIRWELL B2	THIS MATERIAL IS MOUNTED ON THE WALLS NEAR THE STAIR RAILINGS.	1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.	ASBESTOS CEMENT ITEMS	NO
0184 (1978)	036	FIRE DOOR LINING (WHITE, METAL ENCASED)	NO	OLD BOILER ROOM		1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.	REMOVABLE ITEMS	NO
0184 (1978)	048	SHEET GASKET (WHITE)	NO	OLD BOILER ROOM	ALL OF THIS MATERIAL IS DAMAGED AND NEEDS TO BE REMOVED. THIS MATERIAL IS LOCATED ON THE 2' X 6' SELF-STANDING BOILER PLATES.	1. THIS MATERIAL SHOULD BE REMOVED WITHIN ONE YEAR OF RECEIPT OF THIS REPORT. 2. THE REMOVAL PROJECT MUST BE DESIGNED AND CONDUCTED BY EPA QUALIFIED PERSONS IN ACCORDANCE WITH AHERA REGULATIONS. 3. UNTIL REMOVAL IS COMPLETE, CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL.	GASKET MATERIAL AND FLEX CONNECTORS	NO

TABLE 5.1 - RECOMMENDED MANAGEMENT ACTIONS FOR ACM

BUILDING NUMBER	HOMO. MTRL. NO.	MATERIAL TYPE (MATERIAL DESCRIPTION)	FRI-ABLE	MATERIAL LOCATION(S)	COMMENTS	RECOMMENDED MANAGEMENT ACTION(S)	MATERIAL MANAGEMENT PROCEDURE	CLEANING REQUIRED
0184 (1978)	049	FLOOR ADHESIVE (BLACK AND YELLOW, UNDER 1' X 1' LIGHT BROWN WITH BLACK STREAKS VINYL FLOOR TILE)	NO	153, 171	THIS IS THE ADHESIVE FOR MATERIAL #026.	1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.	FLOOR ADHESIVE (MASTIC)	NO
0184 (1978)	062	FLOOR ADHESIVE (BLACK, UNDER PURPLE ANTI-STATIC CARPET)	NO	163, 167, 168		1. NO IMMEDIATE ABATEMENT REQUIRED. 2. CONSULT THE O & M MANUAL CONCERNING SAFE CUSTODIAL PROCEDURES FOR THIS MATERIAL. 3. CONTINUE SURVEILLANCE OF THIS MATERIAL UNDER THE ASBESTOS MANAGEMENT PLAN.	FLOOR ADHESIVE (MASTIC)	NO

APPENDIX A

OPERATIONS AND MAINTENANCE (O&M) PROCEDURES FOR ACM

MATERIAL MANAGEMENT PROCEDURE FOR: Asbestos Cement Items (e.g., non-friable heat shields, roofing, transite, firedampers, shutters, louvers)

INITIAL AND ADDITIONAL CLEANING: Refer to Table 7.1 in the Asbestos Management Plan

SURVEILLANCE: Refer to requirements in Section 3.9

LABELING: Refer to requirements in Section 3.1

MAINTENANCE AND REPAIR PROCEDURES:

Damaged asbestos cement items such as heat shields, roofing, transite, firedampers, and other similar materials should be replaced rather than repaired. Repair of damaged areas 1.0 square meter or less in size must be conducted if immediate removal and replacement is not feasible. Material management actions for areas greater than 1.0 square meter in size must be designed and conducted by qualified personnel.

Removal: To remove 1.0 square meter or 1.0 linear meter or less of asbestos cement materials:

- Thoroughly wet all surfaces, especially edges, using a spray bottle
- Carefully remove material using only hand tools
- Clean up area in accordance with Appendix B
- Dispose of all debris in accordance with Section 3.6

Repair of Surface Areas: Repair of less than 1.0 square meter of asbestos cement surface on floor, wall, or ceiling areas may be repaired by application of non-asbestos cement or other similar patching compound.

Restricted Activities: Maintenance staff must avoid activities that will damage asbestos cement materials. For example:

- Do NOT cut, saw, or drill holes in asbestos cement products
- Do NOT use power tools
- Do NOT use abrasive materials on asbestos cement products
- Do NOT use an ordinary vacuum or dry sweeping to clean up debris

MATERIAL MANAGEMENT PROCEDURE FOR: Exterior Weatherproofing Materials

INITIAL AND ADDITIONAL CLEANING: Refer to Table 7.1 in the Asbestos Management Plan

SURVEILLANCE: Refer to requirements in Section 3.9

LABELING: Refer to requirements in Section 3.1

MAINTENANCE AND REPAIR PROCEDURES:

The following procedures must be followed to protect building occupants if weatherproofing materials require maintenance or repair. These procedures apply only to activities involving 1.0 square meter or less of material.

Repair: To repair damaged area:

- Patch holes, gouges or rips with compatible non-asbestos patching material
- Paint repaired area with exterior grade latex paint
- Clean work area in accordance with Appendix B

Restricted Activities: Maintenance staff must avoid activities that will damage weatherproofing materials. For example:

- Do NOT cut, saw, or drill material
- Do NOT walk or stand on surfaces covered with weatherproofing
- Do NOT lean ladder or scaffolds against surfaces covered by weatherproofing materials

MATERIAL MANAGEMENT PROCEDURE FOR: Floor Adhesive (Mastic)

INITIAL AND ADDITIONAL CLEANING: Refer to Table 7.1 in the Asbestos Management Plan

SURVEILLANCE: Refer to requirements in Section 3.9

LABELING: Not Applicable

MAINTENANCE AND REPAIR PROCEDURES:

Projects accomplished by trained personnel should not exceed 1.0 square meter.

Removal: To remove floor tile adhesive:

- Soak material with hot water
- Remove damaged overlying tile with hand tools
- Remove adhesive material with hand tools
- Clean work area in accordance with Appendix B
- Dispose of all debris in accordance with Section 3.6

Restricted Activities: Maintenance staff must avoid activities that will damage floor adhesive:

- Never dry-grind floor adhesive
- Never dry-scrape floor adhesive

MATERIAL MANAGEMENT PROCEDURE FOR: Gasket Material and Flex Connectors

INITIAL AND ADDITIONAL CLEANING: Refer to Table 7.1 in the Asbestos Management Plan

SURVEILLANCE: Refer to requirements in Section 3.9

LABELING: Refer to requirements in Section 3.1

MAINTENANCE AND REPAIR PROCEDURES:

The procedures below must be followed to protect building occupants if these materials require maintenance or repair.

Repair: Do not repair damaged gaskets or flex connectors. Replace with non-asbestos materials.

Removal: To remove and replace:

- Shut down ventilation system, if applicable
- Isolate air duct section, if applicable
- Thoroughly wet exposed material using a spray bottle
- Loosen bolts on flanges holding material in place
- Carefully remove all material, periodically wetting with water from a spray bottle
- Thoroughly clean entire area in accordance with Appendix B
- Dispose of all debris in accordance with Section 3.6

Restricted Activities: Maintenance staff must avoid activities that will damage gasket cloth materials. For example:

- Do NOT cut, saw, or drill holes in gaskets or connectors
- Do NOT damage intact material
- Do NOT use an ordinary vacuum or dry sweeping to clean debris

MATERIAL MANAGEMENT PROCEDURE FOR: Removable Items

INITIAL AND ADDITIONAL CLEANING: Refer to Table 7.1 in the Asbestos Management Plan

SURVEILLANCE: Refer to requirements in Section 3.9 if items are not removed immediately

LABELING: Not Applicable

MAINTENANCE AND REPAIR PROCEDURES:

Small removable items such as Bunsen burner pads, hot plate pads, gloves, etc., should be removed and replaced with non-asbestos items. Use the following procedures:

- Wet all items with spray bottle
- Clean up any debris or residue in accordance with Appendix B
- Dispose of items in accordance with Section 3.6

Large removable items such as sinks with ACM lining, kilns, file cabinets, safes, etc., should be removed and replaced with non-asbestos items. Use the following procedures:

- Wet exposed ACM surfaces with spray bottle
- Double wrap item in 6 mil polyethylene
- Affix warning label (which may be cut off smaller disposal bags and taped on)
- Clean up any debris or residue in accordance with Appendix B
- Dispose of items in accordance with Section 3.6

The removal of ACM from electrical equipment, (e.g., electrical cords) must be performed on disconnected electrical equipment. This type of removal should be performed only by personnel knowledgeable and proficient in both electrical equipment repair and asbestos removal techniques. To prevent potential shock hazards, these materials must not be wetted until disconnected and not adjacent to energized wires and equipment.

SAFE CUSTODIAL PROCEDURES:

Routine cleaning and dusting will be accomplished on large removable items such as safes and file cabinets by misting and wet wiping. Dry wiping techniques will not be used.

MATERIAL MANAGEMENT PROCEDURE FOR: Surfacing Material and Wall, Ceiling, or Miscellaneous Tiles

INITIAL AND ADDITIONAL CLEANING: Refer to Table 7.1 in the Asbestos Management Plan

ASSOCIATED CLEANING:

In areas where friable sprayed-on or troweled-on ceiling or wall materials are located, special cleaning procedures must be followed until all ACM has been removed.

- Four times each year, all rugs and carpets must be vacuumed with a HEPA filtered vacuum and then steam cleaned
- All non-carpeted floors should be damp-mopped daily

SURVEILLANCE: Refer to requirements in Section 3.9

LABELING: Refer to requirements in Section 3.1

MAINTENANCE AND REPAIR PROCEDURES:

The following procedures must be followed to protect building occupants if wall or ceiling surfacing materials or tiles require maintenance or repair. <u>These procedures apply only to activities involving 1.0 square meter or less of surfacing material.</u>

1. <u>Surfacing Material, Wall, or Ceiling (other than sprayed or troweled-on)</u>

   <u>Repair:</u> To repair damaged areas:

   - Patch holes with non-asbestos spackle or joint compound
   - Paint repaired surface with latex paint
   - Clean work area in accordance with Appendix B
   - Dispose of all debris in accordance with Section 3.6

2. Sprayed-on or Troweled-on Surfacing Material

Repair: To repair delaminated areas, the material should be removed according to the following procedures:

- Restrict access to area and conduct repair when building is not occupied
- Place a large disposable plastic sheet below delaminated area
- Spray affected area with water from a spray bottle
- Carefully remove loose or delaminated material with a putty knife and place into plastic bags
- Encapsulate scraped wall or ceiling with spray lacquer, being careful not to disturb intact material
- Clean work area in accordance with Appendix B
- Dispose of all debris and contaminated material in accordance with Section 3.6

Surface blemishes should be repaired according to the following procedures:

- Place a large disposable plastic sheet below affected area
- Lightly spray affected area with lacquer paint
- Clean work area in accordance with Appendix B
- Dispose of debris in accordance with Section 3.6

3. Acoustical Wall or Ceiling Tile:

Repair: Repair of acoustical tile is normally not required except for patching of small holes or abrasions to be covered for cosmetic reasons. Spray paint or putty can be applied to the damaged area.

Removal of Suspended Tile: To remove suspended acoustical tile:

- Wet tile using a spray bottle
- Carefully remove tile from metal grid
- Clean work area in accordance with Appendix B
- Dispose of tile in accordance with Section 3.6

Removal of Glued Tile: To remove glued acoustical tile from ceilings or wall:

- Wet tile using a spray bottle
- Carefully remove tile with a stiff-blade putty knife
- Keep all cut surfaces and edges damp using spray bottle
- Encapsulate remaining glue and adhered tile with latex paint
- Clean work area in accordance with Appendix B
- Dispose of all debris in accordance with Section 3.6

4. Miscellaneous Tile Materials: These materials should be removed and replaced when damaged. Repair is not recommended.

Removal of Miscellaneous Tile Materials: To remove 1.0 square meter or less of miscellaneous tile materials:

- Thoroughly wet all surfaces, especially edges, using a spray bottle
- Carefully remove material using only hand tools
- Clean up area in accordance with Appendix B
- Dispose of all debris in accordance with Section 3.6

5. For All Surfacing and Ceiling, Wall, or Miscellaneous Tile Materials:

Prevent Damage: Damage to surfacing material can be prevented by one or more of the following:

- Eliminate or minimize vibration to covered surfaces
- Eliminate airflow from ventilation ducts over or against surfaces
- Protect exposed areas from damage by barriers or protective guards
- Restrict activities which may result in impact damage to surfaces

Restricted Activities: Maintenance staff must avoid activities that will damage surfacing material. For example:

- Do NOT cut, saw, or drill holes in surfaces
- Do NOT damage intact material

- Do NOT hang or attach objects such as pictures, plant hangers or shelves from surface
- Do NOT spray surfaces with water for cleaning
- Do NOT use an ordinary vacuum or dry sweeping to clean debris

MATERIAL MANAGEMENT PROCEDURE FOR: Vinyl Floor Tile or Sheeting

INITIAL AND ADDITIONAL CLEANING: Refer to Table 7.1 in the Asbestos Management Plan

SURVEILLANCE: Refer to requirements in Section 3.9

LABELING: Not Applicable

MAINTENANCE AND REPAIR PROCEDURES:

Damaged vinyl floor material should be replaced rather than repaired. Projects accomplished by trained personnel should not exceed 1.0 square meter.

Removal: To remove floor tile or section of vinyl sheeting:

- Soak material with hot water
- Remove tile or sheet with hand tools
- Clean work area in accordance with Appendix B
- Dispose of all debris in accordance with Section 3.6

Restricted Activities: Maintenance staff must avoid activities that will damage vinyl floor material. For example:

- Do NOT cut, saw, or drill holes in vinyl material
- Do NOT use power sanders or chippers
- Do NOT perform dry stripping
- Do NOT use power disc strippers with steel wool pads
- Buff at slow speeds (175-190 RPM) with a low abrasive pad

APPENDIX B

INITIAL AND ADDITIONAL CLEANING PROCEDURES

INITIAL AND ADDITIONAL CLEANING PROCEDURES

For each area where friable ACM, damaged or significantly damaged thermal system ACM insulation, or damaged friable suspected ACM, was identified during the inspection, an initial cleaning is required. This cleaning must occur prior to any management actions, other than O&M activities or repairs, unless an equivalent cleaning has been performed within the previous 6-month period.

Table 5.1 identifies the locations requiring initial and additional cleaning.

Before any cleanup or O&M procedures are initiated, all persons conducting the cleanup must be examined by a physician to verify that each person can safely wear a respirator. Respirators must be fit-tested for each individual to ensure that the person will not be breathing contaminated air. During all cleanup and O&M procedures, the respirators will be worn at all times.

1. Friable Surfacing ACM Area Cleaning

The following equipment is required for conducting cleaning operations:

- HEPA filtered vacuum
- Steam carpet cleaner
- Large 6 mil plastic bags
- Cloths and mops
- Spray bottle
- Half and full facepiece air-purifying respirators with dual replaceable P100 cartridges
- Protective clothing (Tyvek)

NOTE: Exercise caution when using water around electrical fixtures and outlets.

All carpets in rooms containing ACM should be cleaned first with a HEPA filtered vacuum and then by a steam cleaner. All curtains and books exposed to the ACM should be HEPA vacuumed. Vacuum bags and filters should be placed in sealed 6 mil plastic bags for disposal.

Wet mop all other floors in the rooms where ACM is located. All shelves and other horizontal surfaces should be wiped with damp cloths. Use a mist spray bottle to keep the cloths damp. Cloths and mopheads must then be discarded in sealed and labeled 6 mil plastic bags.

The following cleaning procedures must be conducted whenever asbestos-containing debris is discovered.

- If there is visible asbestos debris in the area, immediately put on a respirator and continue the cleaning procedures as described in this section.

- Spray with water any debris found near friable surfacing ACM and place the debris in labeled 6 mil plastic bags using a dust pan. Thoroughly rinse the dust pan with water in a utility sink. Immediately report the presence of debris to the AC. **DO NOT SWEEP ASBESTOS DEBRIS WITHOUT THOROUGHLY WETTING IT FIRST.**

- HEPA vacuum and steam clean all carpets.

- Wet mop all other floors and wipe all other horizontal surfaces with damp cloths.

- Dispose of all debris, filters, mopheads, and cloths in labeled 6 mil plastic bags in accordance with local regulations for disposal of asbestos waste.

2. Thermal System Insulation Cleaning

The following equipment is required for conducting cleaning operations:

- HEPA filtered vacuum
- Steam carpet cleaner
- Large 6 mil plastic bags
- Cloths and mops
- Spray bottle
- Half and full facepiece air-purifying respirators with dual replaceable P100 cartridges
- Protective clothing

All floors should be HEPA vacuumed then wet mopped in the rooms where the pipe or boiler/tank insulation is located. HEPA vacuum and steam clean all carpets contaminated with asbestos-containing thermal system insulation. All shelves and other horizontal surfaces should be wiped with damp cloths. Use a mist spray bottle to keep the cloths damp. Air filters that are potentially contaminated by ACM fibers should be sprayed with water, removed carefully, and properly bagged prior to disposal. Air handling equipment, including ducts and room areas supplied by the potentially contaminated system, must be thoroughly cleaned using HEPA-equipped vacuums prior to filter replacement. Cloths, mopheads, and filters should be discarded in sealed, labeled 6 mil plastic bags according to local regulations for removal and disposal of asbestos waste.

3. Cleaning Procedures for Miscellaneous ACM Areas

Most ACM that is not either surfacing material or thermal system insulation is non-friable. Items such as vinyl asbestos floor tiles, ceiling tiles, transite pipes, and gaskets are examples of materials that are usually considered to be non-friable. Specialized cleaning procedures are not necessary for these materials unless they have sustained damage. If these materials are damaged, the cleaning procedures described for thermal system insulation should be implemented until repair of the material has been completed.